THE

BOTANY

OF

CAPTAIN BEECHEY'S VOYAGE;

COMPRISING

AN ACCOUNT OF THE PLANTS

COLLECTED BY

MESSRS LAY AND COLLIE,

AND OTHER OFFICERS OF THE EXPEDITION,

DURING THE VOYAGE TO THE PACIFIC AND BERING'S STRAIT, PERFORMED IN HIS MAJESTY'S SHIP BLOSSOM,

UNDER THE COMMAND OF

CAPTAIN F. W. BEECHEY, R.N., F.R., & A.S.,

IN THE YEARS 1825, 26, 27, AND 28.

BY

SIR WILLIAM JACKSON HOOKER, K.H., LL.D., F.R., A., & L.S.,

MEMBER OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM, HONORARY MEMBER OF THE ROYAL IRISH ACADEMY, ETC., ETC.,
AND REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW.

AND

G. A. WALKER ARNOTT, Esq., LL.D., F.R.S.E., F.L.S.,

MEMBER OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM, ETC., ETC.

ILLUSTRATED BY NUMEROUS PLATES.

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GLASGOW:
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TO

CAPTAIN F. W. BEECHEY, R.N., F.R., & A.S.,

COMMANDER OF HER M. S. BLOSSOM, AND SUBSEQUENTLY OF HER M. S. SULPHUR,

UNDER WHOSE AUSPICES, AND BY WHOSE ZEALOUS ENCOURAGEMENT, THE PLANTS DESCRIBED IN THE PRESENT VOLUME WERE CHIEFLY COLLECTED,

THIS WORK IS DEDICATED,

WITH SENTIMENTS OF VERY HIGH REGARD AND ESTEEM,

BY HIS FAITHFUL

AND OBEDIENT SERVANTS,

THE AUTHORS.

GLASGOW, 1*st January*, 1841.

ERRATA.

Page 269, line 1. The reference to Tab. LVI. should be omitted.

— 275, — 4. Tab. LVII. to be LVI.

— 280, — 11, from bottom, Tab. LVIII. should be LVII.

— 287, — 17. Tab. LIX. to be LVIII.

LIST

OF

THE PLACES VISITED BY THE EXPEDITION

UNDER THE COMMAND OF

CAPTAIN BEECHEY, R. N.

1825.

Rio Janeiro, July 4th to August 14th.
Conception, (Chili,) October 9th to October 20th.
Valparaiso, (Chili,) October 26th to November 2d.
Easter Island, November.
Ducie's Island, (a Coral formation,) during the same month.
Elizabeth Island, (Coral,) December 3d.
Pitcairn Island, December 4th to December 20th.

1826.

Gambier Island, (Volcanic, surrounded by Coral,) January 2d to January 12th.
Hood Island,
Bow Island,
Clermont Tonnere,
Barrow Tonnere,
Byam Martin,
Cockburn,
Matilda,
Whitsunday,
} These Coral Islands during February, and parts of January and March.
Otaheite, or Tahiti, March 26th to April 26th.
Oahu, Sandwich Islands, May 19th to May 30th.
Onuheow, Sandwich Islands, June 1st and 2d.
Petropaulski, in Awtaschka Bay, Kamschatka, June 28th to July 4th.
Kotzebue Sound, July, August, and September, (parts of them.)
Oahu, again in February.

1827.

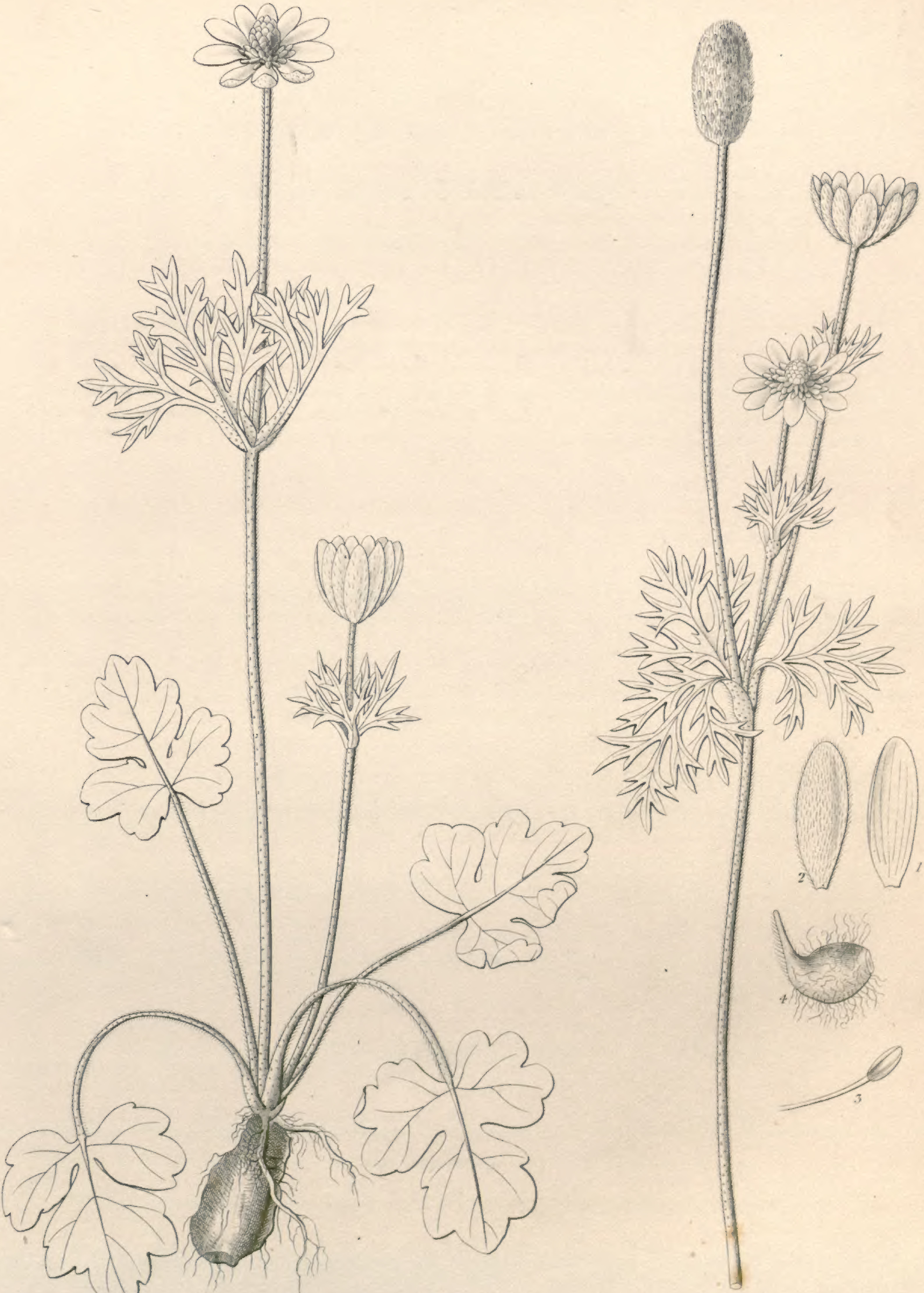
Macao, in April.
Loo-Choo, Bonin, or Archbishop's Island, June.
Petropaulski, again in July.
Kotzebue Sound, till September.
Port-Clarence, September 4th.
Monterey, November.
San Blas, Mexico, December 8th to February.
(Mr. Lay visited and remained for a long time at Tepic, 54 miles from San Blas, inland.)

1828.

Mazatlan, February.
Acapulco, April.
Valparaiso, May.
Coquimbo, May 25th.
Rio Janeiro, August; and return to
England, September of the same year.

The Botanical Collections were made by Mr. Lay the Naturalist, and by the officers of the ship generally; but in particular by Mr. Collie, who, during the temporary absence of Mr. Lay, zealously undertook the care of the department with which that gentleman was entrusted, and whose notes, as well as those of Mr. Lay, have been of much service in drawing up the following account. The collections of the different countries will be described nearly in the order of the places given in the above list. Those of Rio Janeiro, (the place first and last visited,) will, as being perhaps of less interest than the rest, be described the last.

TAB. I.



Anemone decapetala.

W.J.H del.

Swan Sc

BOTANY

OF

CAPTAIN BEECHEY'S VOYAGE.

CHILI.

[Visited Valparaiso in October and November, 1825; and again Valparaiso and Coquimbo in May, 1828.]

After the investigations of Feuillée, of Ruiz and Pavon, of the Naturalists of the Russian Expedition under Capt. Kotzebue, partly made known by Chamisso and Schlechtendal in the different volumes of the Linnæa, and of Mr. Macrae, Dr. Gillies, and Mr. Cruckshanks, some of whose collections have been described in the Botanical Magazine and Register, and in the Botanical Miscellany, it is not to be expected that this portion of Capt. Beechey's Herbarium should be of a very novel nature, particularly as the Naturalists had but little opportunity of visiting the interior of the country.

Cl. I. DICOTYLEDONEÆ.

Subcl. I. THALAMIFLORÆ. *DC.*

Ord. I. RANUNCULACEÆ. *Juss. DC.*

1. ANEMONE. *DC.*

1. *A. decapetala;* foliis radicalibus profunde trilobis tripartitisve lobis rotundato-cuneatis subincisis, involucralibus sessilibus tripartito-multifidis laciniis linearibus acutis, sepalis 10–12 lineari-oblongis, capitulo oblongo densissime lanato. (Tab. I.)—*Linn. Mant. p.* 79. *De Cand. Syst. Veget. v.* 1. *p.* 200. *Prodr. v.* 1. *p.* 19.—A. trilobata. *Juss. Ann. du Mus. v.* 3. *p.* 248. *t.* 21. *f.* 3.—A. macrorhiza. *Domb. Herb.* (fide *De Cand.*)

Radix tuberosa; tubere solitario, oblongo, fibroso, vix unciam longo. *Folia* omnia radicalia, circumscriptione cordato-rotundata, profunde trifida vel tripartita, hirsuta, juniora præcipue; lobis subrotundo-cuneatis, remote dentatis, incisisve. *Petiolus* pollicaris, dense pilosus. *Scapus* spithamæus ad pedalem, hirsutus, superne præcipue, pilis erecto-patentibus, uni-biflorus. *Involucra involucellaque* triphylla; foliolis sessilibus, tripartito-multifidis, basi dilatatis, segmentis linearibus, acutis, primum dense pilosis, demum glabriusculis. *Pedicellus* digitalis ad palmarem, erectus, hirsutus. *Sepala* patentia, albo-cærulescentia, lineari-elliptica, extus sericea, intus glabra, lineata. *Stamina* numerosa. *Capitulum* ovale vel subglobosum, demum elongato-oblongum, densissime lanatum. *Carpella* dense disposita, patentia, ovata, stylo rectiusculo ascendente piloso terminata, tota lana immersa.

Hab. Conception. Not unfrequent upon the hilly grounds. *Mr. Collie.*—More perfect specimens of this plant, probably, than came under the observations of preceding authors, show that it is incorrectly placed by the excellent De Candolle in his section of *Anemonanthea.* It ranks in that of *Anemonospermos*, having, though sometimes a solitary flower on each scape, quite as frequently three or more, of which, as De Candolle has well characterized the groupe, one is destitute of involucellum, and the rest have each a two-leaved one. Indeed, its nearest affinity is the *A. multifida* of North America and the Straits of Magellan, differing, however, essentially in the shape of the leaves and involucre, and in the lengthened head of carpels. We possess specimens from the Horticultural Society, gathered by Mr. Macrae at Conception and at the Baths of Collina, and at Valparaiso by Mr. Bridges.

Tab. I. *Fig.* 1, 1, Sepals; *fig.* 2, Petal; *fig.* 3, Carpel with its woolly covering:—*magnified.*

2. RANUNCULUS. *Linn.*

Sect. Hecatonia.—§. *Floribus flavis, foliis integris. DC.*

1. ***R. humilis;*** parva, annua, glaberrima, foliis longe petiolatis ovalibus integris tridentatisve, floribus pedunculatis solitariis oppositifoliis, carpellis paucis globosis brevissime acuminatis punctulatis. (Tab. II.)—R. humilis. *Collie, MSS.* (non *Pers.*)

Planta inter parva hujusce generis: tota glaberrima. *Radix* fibrosa, annua. *Caulis* 2–3 uncias longus, erectiusculus, debilis, simplex, vel ad basin divisus. *Folia* omnia, radicalia præcipue, longe petiolata; *inferiora* exacte ovalia seu elliptica, integra, *superiora* fere obovata vel subcuneiformia, apice tridentata, basi in petiolum decurrentia, subparallelim atque obscure nervosa. *Petiolus* gracilis, basi in vaginam membranaceam dilatatus. *Pedunculus* solitarius, uniflorus, oppositifolius. *Flos* parvus. *Sepala* suborbiculata, cito reflexa. *Petala* ovata, pallide flava, calyce paululum longiora. *Stamina* pauca. *Carpella* 8–10, in capitulum laxum, ratione floris majuscula, globosa, subnitida, impresso-punctata, glaberrima, stylo perbrevi rectiusculo terminata.

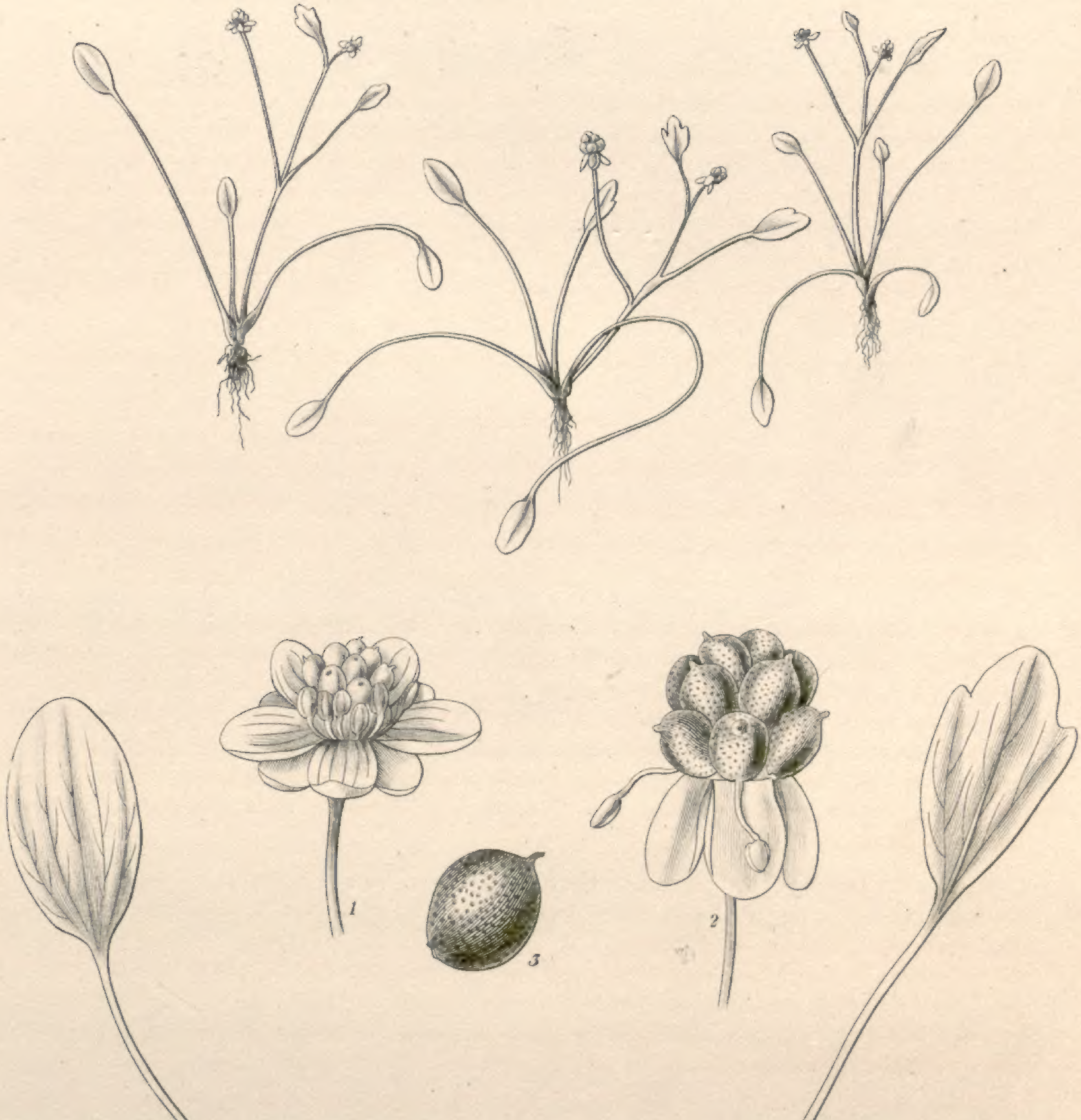
Hab. Conception.—This species we do not find any where described. It bears the name of *Ranunculus humilis* in Mr. Collie's notes; and since the *R. humilis* of Persoon is referred to *R. pusillus*, we retain the appellation given by its discoverer. It comes next to *R. pusillus* in a systematic arrangement. It is also allied to *R. flagelliformis* of Smith, and *R. bonariensis* of Pursh: but besides the great difference in size, the former has orbiculari-cordate leaves, and the latter has the upper ones lanceolate sessile and serrated, and smooth carpels. In habit our plant approaches to *R. ophioglossoides;* but that plant has margined and tuberculated carpels.

Tab. II. *Fig.* 1, Flower; *fig.* 2, Capitulum; *fig.* 3, A single carpel; *fig.* 4, Root-leaf; *fig.* 5, Upper stem-leaf:—*magnified.*

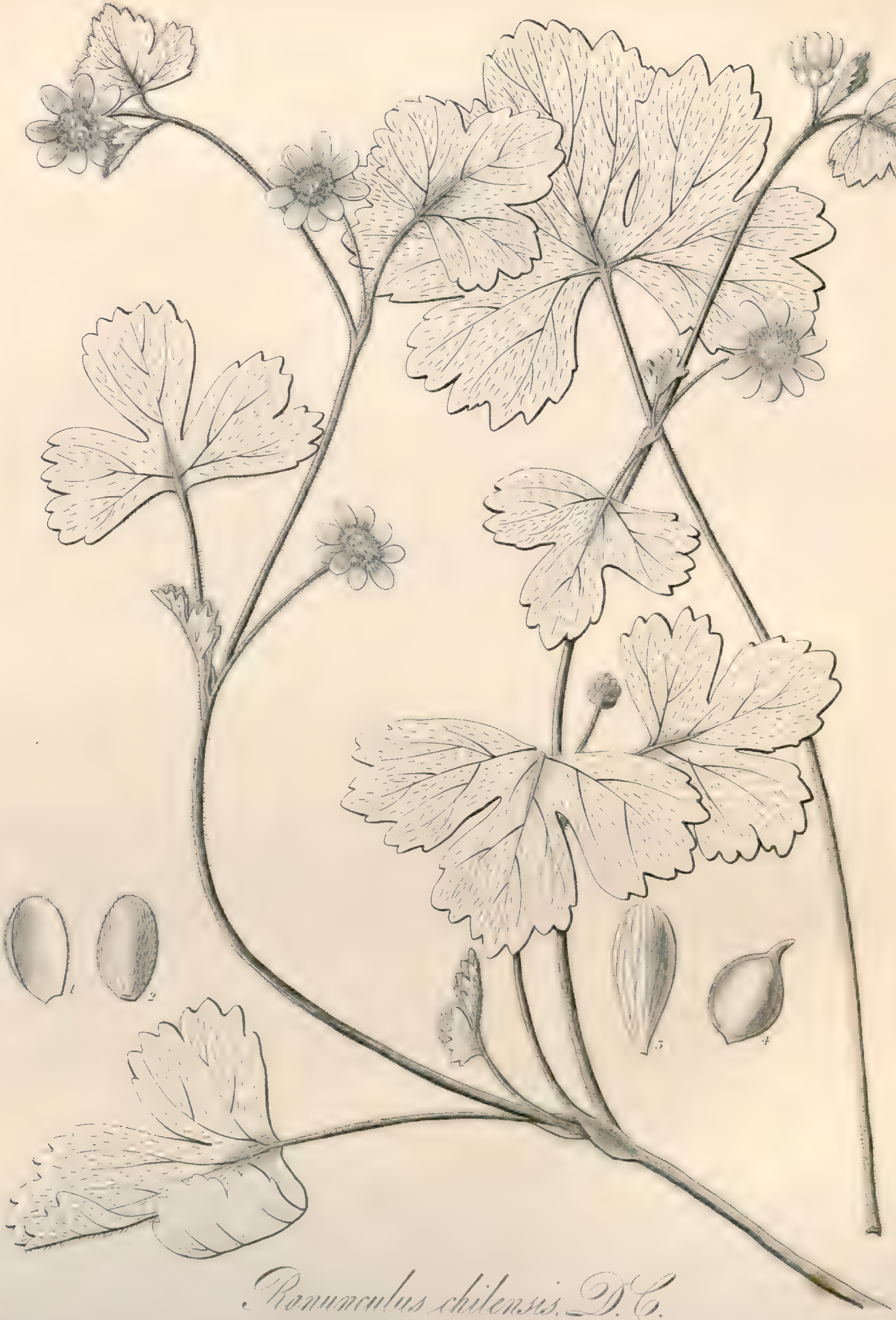
§ §. *Floribus flavis, foliis indivisis.*

2. ***R. chilensis;*** patenti-pilosus, foliis rotundato-cordatis 3-quinquelobatis lobis subrotundo-cuneatis grosse dentatis, petalis 8–10, sepalis villosissimis, carpellis orbiculari-compressis marginatis, stylo brevi curvato, caulibus procumbentibus. (Tab. III.)—*De Cand. Syst. Veget. v.* 1. *p.* 286. *Prodr. v.* 1. *p.* 38. *Schlecht. Animad. p.* 27.

Caules 1–2-pedales, procumbentes, teretes, pilis patentibus flavescentibus hispidi, ramosi. *Folia* petiolata, majuscula, rotundato-cordata, pilosa, profunde trilobata, lobis subrotundo-cuneatis, lateralibus nunc bifidis, omnibus profunde grosse et inæqualiter dentato-serratis, atro-viridia, subtus pallidiora: *superiora* nunc multo minora, 3-partita, bracteiformia, et tunc caulis superne paniculatus evadit. *Petioli* foliis longiores, TAB.II.



Ranunculus humilis: Collie.



Ranunculus chilensis. D.C.

W.J.H. del.^t

Swan sc.

nisi ad summitatem caulis, graciles, patenti-pilosi, basi membranaceo-vaginati, dilatati. *Pedunculi* axillares, solitarii, petioli longitudine, uniflori. *Flos* mediocris. *Sepala* patentia, elliptica, concava, extus pilis appressis hirsutissima. *Petala* 8–10, calyce longiora, flava, anguste elliptica, concava, lineata, breve unguiculata. *Stamina* plurima. *Capitulum* fructus globosum. *Carpella* sub-20, orbiculari-compressa, lævia, marginata, stylo mediocri paululum recurvato terminata.

HAB. Conception.—The specimen here figured has the leaves nearly similar in form from the base to the extremity of the stem, and thus the peduncles which accompany them appear solitary and single-flowered. But in others which we possess, gathered by Mr. Cruckshanks in the same country, the upper leaves gradually become smaller, different in shape, narrower and tripartite, with the segments acuminated and entire, whence the upper part of the stem resembles a bracteated panicle.

TAB. III. *Fig.* 1, Inner side of a sepal; *fig.* 2, Exterior view of do.; *fig.* 3, Petal; *fig.* 4, Carpel;—*magnified.*

SECT. ECHINELLA.—§. *Foliis dissectis lobatisve. DC.*

3. *R. muricatus;* foliis glabris petiolatis suborbiculatis 3-lobis grosse dentatis, caule erectiusculo aut diffuso, pedunculis oppositifoliis, calyce patente, carpellis utrinque tuberculoso-aculeatis in cornu acuminatum rectum desinentibus. *DC.—Linn. Sp. Pl. p.* 780. *Lam. Ill. t.* 498. *De Cand. Syst. Veget. v.* 1. *p.* 298. *Prodr. v.* 1. *p.* 42.—Ranunculus palustris echinata. *Feuill. Chil. v.* 3. *t.* 18. (fig. mala.)

HAB. Conception.—Our Chilian specimens have the petioles dilated, which constitutes the character of De Candolle's var. ε. *brasilianus:* but the same circumstance occurs in the North American individuals. Mr. Douglas finds the species at Juan Fernandez: but as all the stations both in the southern states of North America and in South America are near towns or cultivated places, may it not have been imported from Europe? In Carolina, Elliott says, it is probably of exotic origin.

ORD. II. BERBERIDEÆ. *Vent.*

1. BERBERIS. *L.*

1. *B. glomerata;* spinis tripartitis, foliis rigidissimis cuneatis grosse 3–5-dentato-spinosis, floribus plurimis (8–10) in racemos vix folio longiores glomeratis.

Frutex valde ramosa; ramis brevibus, tuberculosis. *Folia* fasciculata, parva, 6–8 lineas longa, coriacea, rigidissima, cuneata, basi attenuata, venosa, cartilagineo-marginata, grosse 3–5-dentato-spinosa. *Racemi* axillares, vix foliis longiores, pendentes, bracteati; bracteis subulato-lanceolatis, membranaceis, pedicello longioribus. *Flores* flavi, parvi. *Sepala* minuta, decidua. *Petala* siccitate fusco-lineata.

HAB. Coquimbo.—This appears to be entirely an undescribed species, most nearly allied perhaps to the *B. ruscifolia* of *Lam. Ill. t.* 253, a native of Buenos Ayres: but that is a much larger plant, with fewer flowers on the racemes, and differently shaped leaves.

ORD. III. FUMARIACEÆ. *DC.*

1. FUMARIA. *Tourn. De Cand.*

1. *F. capreolata. Linn.—De Cand. Prodr. v.* 1. *p.* 130. *Ejusd. Ic. Rar. t.* 34.

Var. γ. pedunculis erectis.

HAB. Var. γ. Valparaiso.—In this variety the fruit is apiculated, as in *F. parviflora;* but the sepals are characteristic of the species.

ORD. IV. CRUCIFERÆ. *Juss. De Cand.*

Subord. PLEURORHIZEÆ (o=). *DC.*

Trib. I. ARABIDEÆ, seu Pleurorhizeæ Siliquosæ. *DC.*

1. CARDAMINE. *DC.*

1. *C. hirsuta. Linn.—De Cand. Prodr. v.* 1. *p.* 152. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 20. *Hook. Fl. Bor. Am. v.* 1. *p.* 45.

Var. sylvatica.—C. sylvatica. *Link.—De Cand. Prodr. v.* 1. *p.* 152.—C. flaccida. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 21.

HAB. Conception.—This does not differ from the larger state of *C. hirsuta* found in our country, and which Continental Botanists have called *C. sylvatica:* and it equally appears to be the *C. flaccida* of Chamisso and Schlechtendal, which the former Naturalist gathered also in Chili.

2. *C. tenuirostris;* foliis pinnatis, foliolis omnibus anguste linearibus acutis integerrimis, petalis obovatis unguiculatis calyce duplo longioribus, siliquis erectis gracilibus in rostrum tenuissimum attenuatis.

Caules erecti, flexuosi, glabriusculi, striati, subpedales. *Folia* omnia pinnata, glabra vel, sub lente, pilis minutis hirsuta; foliolis omnibus anguste linearibus, acutis, integerrimis, foliorum superiorum angustissimis. *Flores* corymbosi, majusculi. *Pedicelli* graciles. *Sepala* oblonga, erecta, glaberrima. *Petala* alba, oblongo-obovata, in unguem attenuata, sepalis duplo longiora. *Siliquæ*, vix maturæ, unciam longæ, erectæ, graciles, basi in stipitem brevem, apice in stylum vel rostrum semiunciam longum, tenuissimum attenuatæ. *Stigma* parvum, capitatum.

HAB. Conception.—In habit this plant is certainly allied to *C. pratensis*, and especially to that var. with narrow leaflets which is described in the Flora Boreali-Americana, under the var. *angustifolia:* but its leaflets, and in particular those of the root-leaves, are still narrower, the flowers are smaller, and, in the extremely attenuated beak to the pods, it differs from all the species we are acquainted with.

Subord. II. NOTORHIZEÆ (o||).

Trib. SISYMBREÆ, seu Notorhizeæ Siliquosæ. *DC.*

2. SISYMBRIUM. *All.*

1. *S. officinale. Br.—De Cand. Prodr. v.* 1. *p.* 191. *Hook. Fl. Bor. Am. v.* 1. *p.* 61.—Erysimum officinale. *Linn. Sp. Pl. p.* 922. *Engl. Bot. t.* 735.

HAB. Conception.

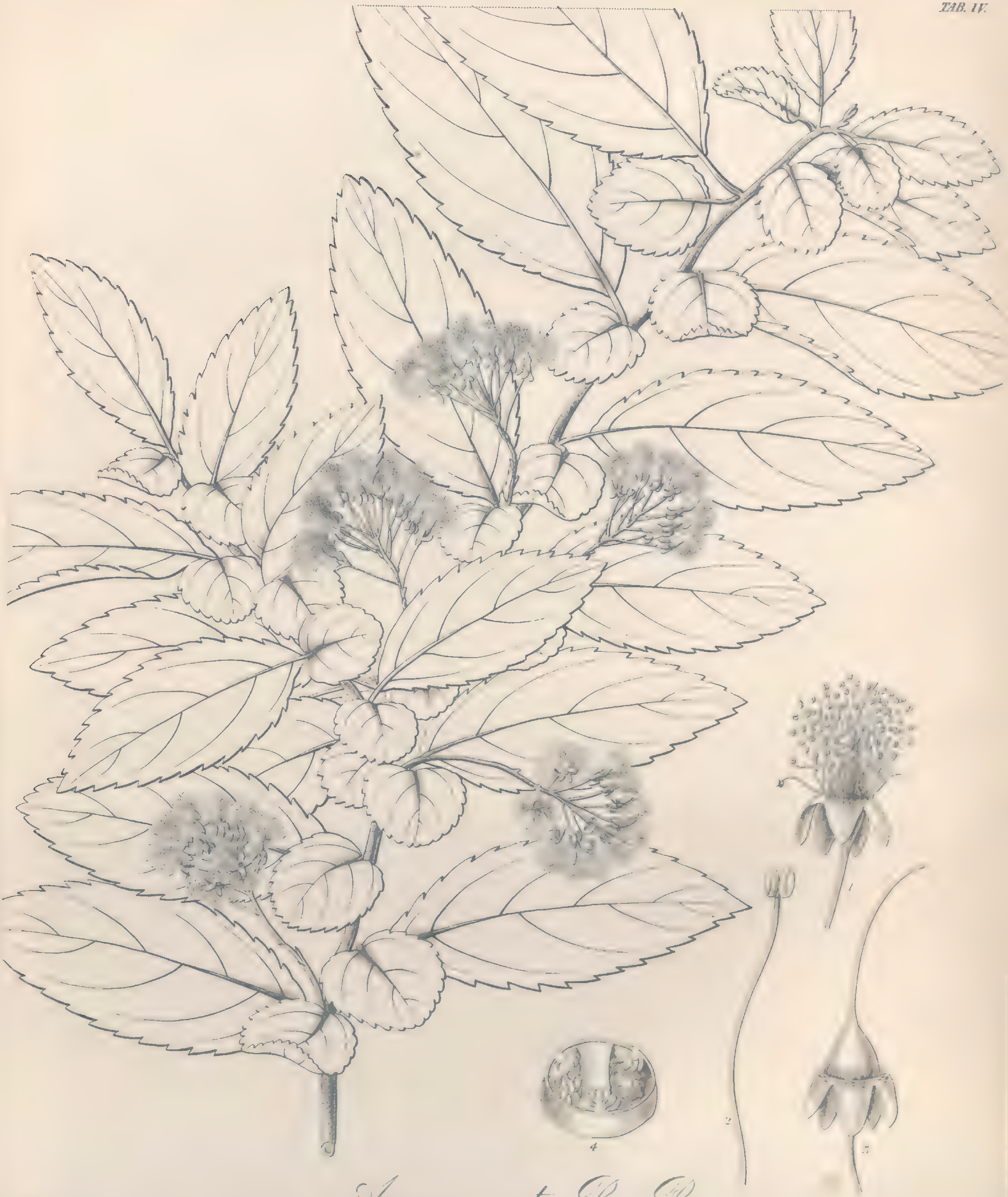
Trib. LEPIDINEÆ, seu Notorhizeæ angustiseptæ. *DC.*

3. LEPIDIUM. *Br.*

1. *L. bipinnatifidum;* siliculis ovalibus emarginatis, foliis pinnatipartitis, rachi alata, lobis multifidis, ramis pubescentibus. *DC.—Desv. Journ. Bot.* 1814. *p.* 165 *et* 177. *De Cand. Syst. Veget. v.* 2. *p.* 544. *Prodr. v.* 1. *p.* 206.

HAB. Valparaiso.—The specimens in the collection are extremely small, scarcely two inches high, erect and simple. Those we have from the same country, gathered by Mr. Bridges, are a foot long, much branched, especially from the base. In both we find all the essential characters of the *L. bipinnatifidum* of Desvaux, who justly observes that it is nearly allied to *L. bonariense*.

TAB. IV.



Azara serrata R. et P.

W.J.H. del^t.
Swan Sc.

4. CAPSELLA. *Vent.*

1. *C. Bursa-Pastoris. Mœnch.—De Cand. Prodr. v.* 1. *p.* 177.—Thlaspi Bursa-Pastoris. *Linn.*

Hab. Conception. In all probability imported from Europe.

5. MENONVILLEA. *DC.*

1. *M. linearis.—De Cand. Syst. Veget. v.* 2. *p.* 420. *Prodr. v.* 1. *p.* 184. *Deless. Ic. Sel. v.* 2. *t.* 56. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 28.

Hab. Conception.—It is remarkable that De Candolle, who has so fully described this plant in his Systema Vegetabilium, and De Lessert, who has otherwise given so excellent a figure of it in his Icones Selectæ, should both consider the cotyledons to be accumbent; whereas, in many seeds that we have examined, we find that they are constantly incumbent (||o), hence we have removed the genus to the "Notorhizeæ angustiseptæ."

Ord. V. BIXINEÆ.

1. AZARA. *R. & P.*

Cal. 4–6-partitus. *Pet.* nulla. *Stam.* plurima, filamentis filiformibus liberis et fila plurima capillaria e toro orta. *Antheræ* 2-loc. *Stylus* subulatus. *Stigma* obtusum. *Bacca* stylo apiculata, 1-loc., polysperma. *Placentæ* 3 (seu 4) parietales.—Frutices *Chilenses.* Folia *geminata inæqualia.* Flores *fragrantes. DC.*

1. *A. serrata;* foliis geminatis serratis, majori elliptico-lanceolato minore subrotundo, corymbis multifloris. (Tab. IV.)—*Ruiz et Pav. Fl. Per. Prodr. p.* 79. *f.* 36. "*Syst. p.* 137." *De Cand. Prodr. v.* 1. *p.* 262.

Frutex valde ramosus; ramis alternis, subdistichis, fusco-pubescentibus, foliosis. *Folia* geminata, geminis alternis, membranaceo-coriacea, nervosa, distincte serrata, breve petiolata, glabra vel ad costam solummodo obscure pubescentia; majori duas vel tres uncias longo, elliptico-lanceolato, basi apiceque acuto, altero quadruplo minori rotundato, basi obtuso, apice plerumque acuto. *Flores* in corymbis axillaribus, pedunculatis, plerumque pendentibus. *Pedunculi* bracteati, pedicellique pubescentes. *Calyx* nostris exemplaribus 5-partitus, extus pubescens, laciniis oblongo-ovatis, acutis, cito reflexis. *Corolla* nulla. *Stamina* certe perigyna, ad basin calycis inserta, numerosa. *Filamenta* longa, filiformia, basi setis numerosis intermixta. *Antheræ* didymæ, subglobosæ, loculis longitudinaliter dehiscentibus. *Germen* ovatum, glabrum, uniloculare, receptaculis 4 longitudinalibus parietalibus cui ovula plurima affixa. *Stylus* elongatus, filiformis. *Stigma* obtusum.

Hab. Conception.—We have given a figure of this plant, because we are not aware that any exists; but we have to regret that the fruit is unknown to us, and that it is therefore out of our power to offer any remarks on the natural order in which it should be placed. Ventenat thought it ought to rank with the *Samydeæ* or the *Rosaceæ*, only that Ruiz and Pavon expressed their opinion that it was allied to *Prockia*. Adrien de Jussieu, in the Dict. Classique, says, that allied to *Abatia* and *Prockia*, it should be ranked with these genera among the *Bixineæ* of M. Kunth, where, indeed, De Candolle has placed it: but this latter author has classed *Abatia* with the *Tiliaceæ*. The leaves of this plant are bitter, the flowers fragrant.

Tab. IV. *Azara serrata. Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Flower from which the stamens are removed; *fig.* 4, Section of the germen:—*magnified.*

Ord. VI. POLYGALEÆ. *Juss.*

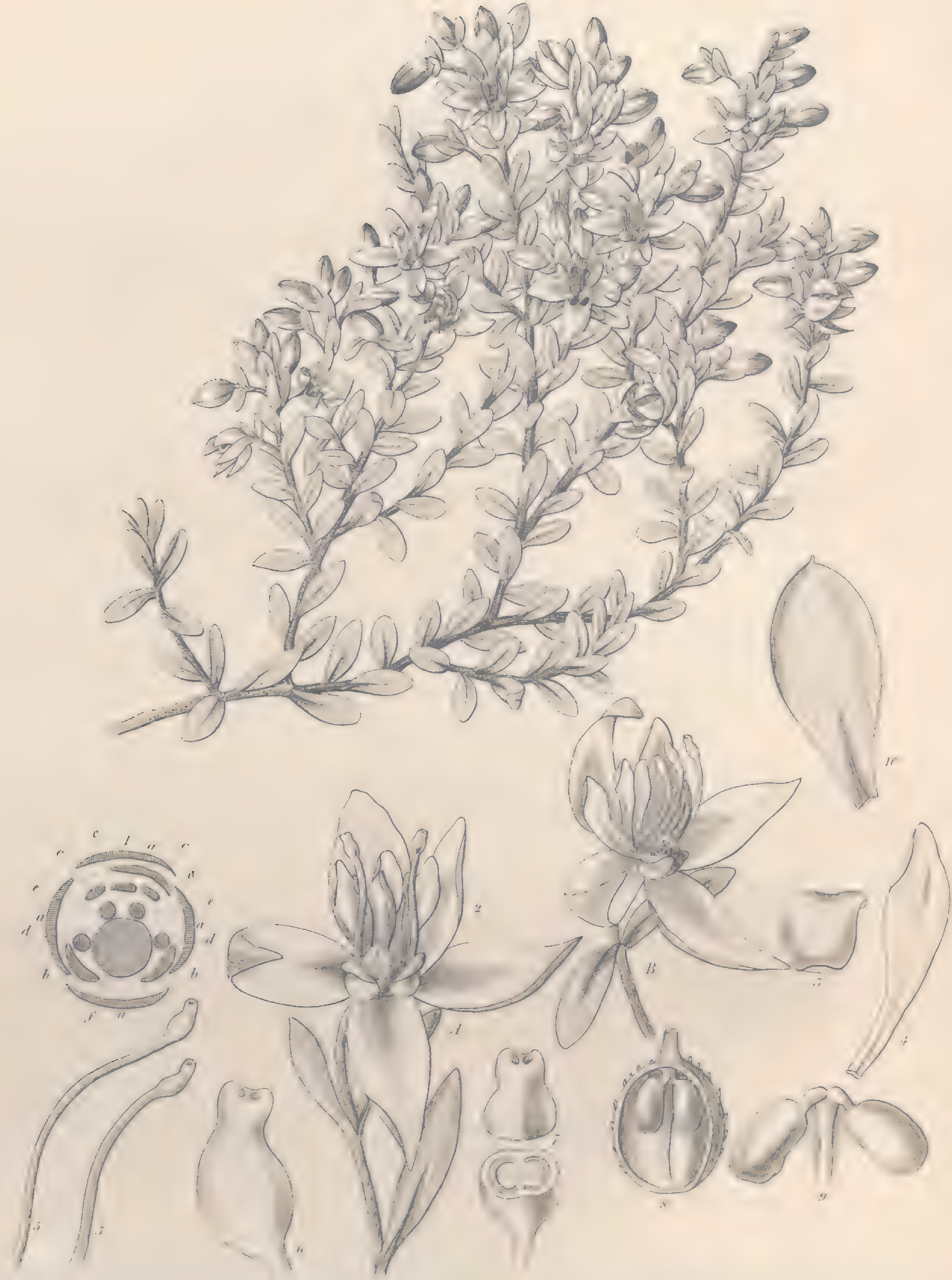
1. KRAMERIA. *Loefl.*

Sepala 4, rarius 5, extus sericea, intus colorata. *Petala* 3–5, quorum 2 suborbicularia sessilia, cætera unguiculata. *Stam.* 3–4, 2 inferioribus longioribus, antheris bilocularibus et duplici poro dehiscentibus. *Fructus* globosus, indehiscens, setoso-aculeatus, 1-locularis, 1-spermus. *Embryo* rectus. *Albumen* nullum. *Radicula* supera.—Frutices *multicaules.* Folia *alterna.* Flores *axillares solitarii in supremis ramulorum foliis, et ita subracemosi, pedicellati.*

1. *K. cistoidea;* caule fruticoso ramoso, foliis oblongis mucronatis sericeis, pedicellis folio longioribus bibracteatis racemum brevem efformantibus, sepalis petalisque 5, staminibus 4. (Tab. V.)

Frutex parvus, ramosus, rigidus; ramis erectis, adpresse sericeo-pubescentibus. *Folia* alterna, subsemiunciam longa, erecto-patentia, rigida, sericeo-pubescentia, oblonga, basi attenuata, sessilia, apice acuto atque breviter mucronato, enervia. *Flores* pedunculati, solitarii, e foliis sensim minoribus in supremam partem ramulorum, et ita quasi racemosi atque multibracteati. *Pedunculi* semiunciam longi, curvati, sericei, basi unibracteati, bracteis 2 medium versus, oppositis, linearibus, sericeis. *Sepala* 5, patentia, lato-lanceolata, concava, extus valde sericea, intus purpurea. *Corolla* pentapetala. *Petala* 2 *inferiora* remota, parva, suborbiculata, apice subrevoluta, truncata, carnosa: 3 *superiora* arcte disposita, sed basi libera, longiora, spathulata, acutissima, submembranacea, purpurea. *Stamina* 4, didynama, sursum curvata, 2 *longiora* lateralia; 2 *breviora* superiora cum petalo intermedio (trium superiorum) alternantia. *Filamenta* crassa, carnosa. *Antheræ* ovatæ, terminales, supra medium constrictæ, biloculares, apice poro duplici dehiscentes. *Pistillum: Germen* ovato-globosum, dense sericeo-hirsutum, pilis glandulis clavatis carnosis immixtis, uniloculare. *Ovula* 2, e summo loculo pendentia. *Stylus* subfiliformis, crassus, glaber, sursum curvatus. *Stigma* obtusum. *Fructus* nobis ignotus.

Hab. Coquimbo.—Of the six species of *Krameria* described by De Candolle, and the three by St. Hilaire, not one can be said accurately to correspond with the present; which is, moreover, a native of Chili; whereas all the others are inhabitants of Cumana and St. Domingo, of Mexico, of Peru, or Brazil. Assuredly, in general habit, our *K. cistoidea* comes near to the Peruvian *K. triandra;* but that has vastly larger flowers, according to the figure (*Fl. Per. t.* 93), and only 4 sepals, 3 stamens, and 4 petals: whilst in our plant, (and we have examined specimens gathered also at Coquimbo by Mr. Cruckshanks and Mr. Macrae,) there are constantly 5 sepals, 4 stamens, and 5 petals; on which account, and taking the different countries they respectively inhabit, we have thought it safer to distinguish the Chilian plant specifically from that of Peru. In the number of the parts of the flower, our species agrees with the *K. grandiflora* and *K. ruscifolia* of St. Hilaire, both of which, from Brazil, have also 5 sepals and petals, and 4 stamina; but in these the stems are simple, or nearly so, and the flowers almost spicate, having very short pedicels; while in ours the stem is much branched, and the flowers distinctly racemose. *K. cytisoides* has also the same number of parts, but the central of the upper petals appears to be longer than the two others, and nearly filiform, and the leaves are ternate. *K. tomentosa, St. Hil.,* has 4 sepals and stamina, and 5 petals. In *K. Ixina* and *K. glabra, Spr.,* 4 sepals, petals, and stamens have been observed, a peculiarity caused by the disappearance of the upper unguiculate petal. *K. linearis, Poir.* and *DC.,* (*K. pentapetala, R. P.*) has 5 sepals, 4 stamina, and 3 petals, of which the upper solitary unguiculate one is 3-lobed, indicating its triple origin. In *K. triandra,* as we have already observed, there are only 3 stamens; but it is probable that the upper one is double, or formed by the union of two, or that the anther contains four cells. Of *K. pauciflora* and *secundiflora,* from Mexico, nothing is known of the structure of the flower. But if we are at a loss to determine satisfactorily the species of this plant, our difficulty is greater in ascertaining the order in which it should be placed. Jussieu, in the 1st vol. of the Mémoires du Mus. p. 390, has arranged it with the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W.J.H. del.

Krameria cistoidea.

genera allied to *Polygaleæ;* but he observes that it recedes from them "in the number and structure of the parts of the flower, and in the absence of a perisperm." Mr. Brown, too, as also St. Hilaire, refers it to *Polygaleæ.* The flowers present peculiarities in their structure very unlike any thing we have seen in other plants. There are three bracteas, one on the stem at the insertion of the pedicel, the other two opposite, on the pedicel itself, and decussating with the lower bractea. The sepals are in a triple series; the lower, or that which is in the same line with the lower bractea, together with a similar superior one, are larger than the others, and exterior; the two intermediate ones are rather smaller and alternate with the exterior pair; the interior is still smaller, and is situated between the upper exterior and one of the intermediate ones, usually that on the right, but, in some blossoms, that on the left, as seems to be represented and described by St. Hilaire, under *K. grandiflora.* Petals 5; 3 similar in shape to each other, of which the lateral ones are opposite to the upper exterior and to the interior small sepal, while the central one is intermediate between these; 2 fleshy petals are placed opposite the two intermediate sepals. Stamens 4 and declinate, of which the two lower are longer and more bent, and alternate with the upper petals, and with these and the carnose ones. The ovarium has the placenta on the side next the central upper petal; and the style, bending first downwards towards the lower exterior sepal, afterwards rises towards the central petal. Such is the structure that presents itself to us in this species, the only one we have had a sufficient opportunity of examining. It must be remarked, however, that this view of its structure is completely at variance with the analysis of *K. grandiflora,* given by St. Hilaire, (Mémoires du Mus. v. 17. t. 31, and Fl. Brasil. Merid. v. 2. p. 73,) for, by that able author, the insertion of the ovules or the line of the placenta is "*a petalis inferioribus aversum,*" while he declares the lower petals to be the three uniform ones. If, then, St. Hilaire were correct, there could be little doubt of the genus *Krameria* belonging to *Polygaleæ,* each anther and stamen with a double cell and double terminal pore being viewed as composed of two stamens, and two anthers, each with a single cell and pore, or tending to show that in *Polygaleæ* each pair of stamens forms but one; but our species presents the very different arrangement we have described, and from it we may state that, whether we take as our guide the subtending bractea, or the ascending style, which Brown finds to be anterior in every plant, or the placenta situated on the upper interior side of the ovarium, we consider the three similar petals to be superior, and, consequently, that an inversion of the common arrangement in plants, and in the *Polygaleæ,* takes place here. The relative position of the sepals and petals to the axis of the spike or bractea, is thus scarcely different from what exists in the *Leguminosæ,* where Sir J. E. Smith seems disposed to fix this genus. But neither is it altogether the same as in that order, for, looking at the sepals by themselves, the odd one, or that which has least relation to the others, is undoubtedly the small interior one: but with regard to the bractea, and a symmetrical disposition of the petals, stamina, and style, the inferior must be termed the odd one, the two intermediate ones forming one opposite pair, while the upper exterior, and the small interior, although placed in a very different series, must thus constitute the next pair. Viewing the analysis in what way we will, we are beset with difficulties, which are increased by observing that the two fleshy petals do not alternate with any of the sepals, but are opposite to the two that are intermediate, which would almost incline us to believe, with Kunth, that these are abortive stamina, and not petals. If *Krameria* belong to *Polygaleæ,* the arrangement and nature of the organs in that order are still involved in doubt; and if it be one of the *Leguminosæ,* its nearest affinity is with the genus *Cassia,* from which, however, it differs in very many important points. Perhaps some allied genus may yet be discovered, and a new groupe formed, exhibiting an additional intermediate link between these orders. We have not seen the ripe fruit, but St. Hilaire describes the cotyledons as auricled at the base, the auricles surrounding the radicle, which perhaps led De Candolle and others to believe in the presence of a fleshy albumen: that, however, is no objection to its forming part of *Polygaleæ;* for in some genera truly belonging to this order, as *Monnina* and *Securidaca,* the albumen has a tendency also to disappear. We may add, that in our idea of the position of the parts of the flower, we are borne out by Ruiz and Pavon, Jussieu and Kunth. The whole arrangement will be best understood by the following reference to the figures in the plate.

Tab. V. *Krameria cistoidea.* *Fig.* 1, Section of a flower-bud; *a. a. a. a. a.* Sepals of the calyx; *b. b.* The two inferior petals of the corolla; *c. c. c.* The three superior petals; *d. d.* The two lateral and

longer stamens; *e. e.* The two upper and shorter ones; *f.* The pistil; *fig.* 2, Flowers expanded; A. front view, B. side view; *fig.* 3, One of the lower petals; *fig.* 4, One of the upper ones; *fig.* 5, 5, A longer and a shorter stamen; *fig.* 6, Back view of an anther; *fig.* 7, Section of an anther cut open to show the cells within; *fig.* 8, Vertical section of the germen to show the two pendent ovules; *fig.* 9, The ovules, with their stalks attached to a parietal placenta:—all more or less *magnified.*

2. MONNINA. *R. & P.*

1. *M. linearifolia;* suffruticosa, foliis linearibus lanceolatis acutissimis subsessilibus glabris, racemis terminalibus longis inferne nudis, capsula oblonga uniloculari. (Tab. VI.) —"*Fl. Per. v.* 1. *p.* 173." *De Cand. Prodr. v.* 1. *p.* 345.

Caules inferne fruticulosi, ramosi; ramis herbaceis, foliaceis, glabris. *Folia* sparsa, magis minusve patentia, sesquiunciam longa, lineari-lanceolata, integerrima, glaberrima, obscure uninervia, basi in petiolum vix lineam longum attenuata, apice acutissima, subpungentia. *Rami* apice attenuati sunt in racemos spithamæos fere ad pedales, inferne nudos superne floriferos atque magis minusve pubescentes. *Pedicelli* breves, basi bractea parva muniti, demum, fructiferi, decurvi. *Flores* (flavi?) *Sepala* ovato-lanceolata, acuta. *Alæ* orbiculatæ. *Carina* alis vix brevior. *Germen* oblongum. *Stylus* inferne bispinosus. *Stigma* attenuatum, longum, deflexum. *Capsula* oblonga, reticulata, unilocularis, monosperma. *Semen* pendens. *Embryonis radicula* ad hilum spectat.

Hab. Coquimbo.—The above description, and the accompanying figure, are taken from specimens which we have received from Dr. Gillies and Mr. Cruckshanks, equally gathered in Chili: they being much more perfect than those in the present collection.

Tab. VI. *Monnina linearifolia. Fig.* 1, Flower; *fig.* 2, Sepals and wings; *fig.* 3, Corolla; *fig.* 4, Anther; *fig.* 5, Pistil; *fig.* 6, Capsule; *fig.* 7, Section of do. to show the pendent solitary seed; *fig.* 8, Embryo:—*magnified.*

Ord. VII. VIOLARIEÆ. *DC.*

1. VIOLA. *Tourn.*

1. *V. maculata;* stigmate apice subplano, rostro brevissimo, caule abbreviato, foliis ovatis crenatis subtus fusco-punctatis, stipulis ovatis apice fimbriatis, sepalis lanceolatis acuminatis, staminibus apice emarginatis, calcare brevi obtuso.—*Cav. Ic. v.* 6. *p.* 20. *t.* 539. *De Cand. Prodr. v.* 1. *p.* 297. *Spreng. Syst. Veget. v.* 1. *p.* 801.—Viola lutea foliis non acutis. *Feuill. Chil. v.* 3. *p.* 66. *t.* 48.

Hab. Conception.

2. *V. rubella;* fruticosa, caulibus ramosis, foliis ovato-oblongis lanceolatisve punctatis laxe dentatis, stipulis lanceolatis setaceo-dentatis, sepalis subacutis, unguibus petalorum angustatis, calcare brevissimo subconico, membranis staminum obtusis, appendicibus nectariferis dorso antherarum conicis.—*Cav. Ic. v.* 6. *p.* 20. *t.* 531. *f.* 1. *De Cand. Prodr. v.* 1. *p.* 304. *Ging. in Linnæa, v.* 1. *p.* 410.—V. chamædrifolia. *De Cand. Prodr. v.* 1. *p.* 306.

Hab. Conception.

2. IONIDIUM. *Vent.*

1. *I. parviflorum;* fruticosum ramosum diffusum, ramis elongatis bifariam puberulis, foliis alternis ovatis serratis in petiolum breviter attenuatis, stipulis subulatis petioli vix

TAB 17

Monnina linearifolia R. et P.

longitudine, pedunculis glabris folium superantibus, sepalis ovato-lanceolatis acutis, labello calycem triplo superante ovato bilobo, lobis rotundatis patentibus, squamulis nectareis subclavatis, capsulis subrotundo-trigonis calyce triplo longioribus 3–5-spermis. *DC.*—"*Vent. Malm. p.* 27. *in Adn.*" *Humb. et Kunth, Nov. Gen. v.* 5. *p.* 375. *De Cand. Prodr. v.* 1. *p.* 310.—Viola parviflora. *Linn.*—Maytensillo. *Feuill. Chil. v.* 3. *p.* 41. *t.* 28.

Hab. Conception.—The root of this plant is described by Feuillée as resembling that of Ipecacuanha in shape, and employed in lieu of Senna, and considered as one of the most sovereign purgatives of the country. Cavanilles (Ic. v. 6. p. 21,) has noticed this species as having been found at Montevideo, in Quito, and in Chili; and he has accurately described it.

Ord. VIII. CARYOPHYLLEÆ. *Juss.*

1. SILENE. *Linn.*

1. *S. gallica. Linn.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 40.

Hab. Conception.

2. ARENARIA. *Linn.*

1. *A. rubra. Linn.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 53.—A. marina. *Sm.* (not *Linn.*)

Hab. Conception.

3. CERASTIUM. *Linn.*

1. *C. strictum. Linn.—De Cand. Prodr. v.* 1. *p.* 119.

Hab. Conception. Probably introduced from Spain, along with *Silene gallica.*

Ord. IX. LINEÆ. *DC.*

1. LINUM. *Linn.*

1. *L. oligophyllum;* caulibus adscendentibus basi lignosis, ramis alternis, foliis lineari-lanceolatis basi biglandulosis eglandulosisve, inferioribus plerumque suboppositis, superioribus alternis, floribus oppositifoliis terminalibusque, petalis flavis, stylis ad basin usque liberis, stigmatibus capitatis, capsula subrotunda obtusa, valvulis dorso planis. *Schiede.*

Var. α. glandulosum; ramosum, foliis patentibus basi utrinque glandula stipulari instructis. *Schiede.—Willd. MSS. De Cand. Prodr. v.* 1. *p.* 428. *Schiede in Linnæa, v.* 1. *p.* 68.

Hab. Conception.

2. *L. usitatissimum. Linn.*

Hab. Conception: probably an imported plant.

Ord. X. MALVACEÆ. *Br. DC.*

1. MALVA. *Linn.*

1. *M. parviflora. Linn.*

Hab. Conception. Introduced.

2. *M. eriocarpa;* foliis palmato-quinquelobis inciso-dentatis, pedicellis geminis petioli

longitudine, fructu villoso.—*De Cand. Prodr. v.* 1. *p.* 78.—M. prostrata. *Cav. Diss. v.* 2. *t.* 16. *f.* 3.? *De Cand. Prodr. v.* 1. *p.* 436.—Pentaphylloides. Alceæ minori folio, flore purpureo. *Feuill. Chil. v.* 2. *p.* 763. *t.* 47.

Hab. Near Conception.—This appears to agree nearly as well with the *M. prostrata* of Cavanilles as with the *eriocarpa* of De Candolle; only that the former is described as having its fruit glabrous, whereas our plant has the fruit somewhat hairy. The peduncles are solitary, not geminate as in De Candolle's plant, so that we cannot but be doubtful as to the correctness of our name and synonyms.

2. SIDA. *Cav.*

1. *S. vitifolia;* foliis cordatis 3–5-lobis pilis stellatis supra parce subtus confertim tectis, lobis grosse crenatis magis minusve acuminatis, petiolo foliis longiore pedunculis solitariis axillaribus apice subtrifloris breviore, pedicellis brevibus calyce multo brevioribus, stylis plurimis.—*Cav. Ic. v.* 5. *t.* 428? *De Cand. Prodr. v.* 1. *p.* 471?

Hab. Conception.—This does not well accord with Cavanilles' figure and description above quoted, nor can we satisfy ourselves as to the division in which it ought to be placed, since we have no perfect fruit. The stem, branches, leaves, petals, peduncles, and calyx, are clothed with dense short stellated pubescence.

3. CRISTARIA. *Cav.*

1. *C.? pinnatifida;* caule foliisque glabratis pedicellis calyceque pilis longis hispidis, foliis pinnatifidis lobis linearibus distantibus.

Hab. Coquimbo.—Of this plant there is only one, and that a very indifferent, specimen. It has the habit of a *Cristaria;* and if it really belong to that genus, it is sufficiently distinct from any of the species hitherto described.

Ord. XI. SAPINDACEÆ. *Juss.*

1. AMIROLA. *Pers. Llagunoa. R. & P.*

1. *A. glandulosa;* foliis petiolatis trifoliatis, foliolis ellipticis serratis glandulis nigris utrinque punctatis.

Frutex ramosus; ramis rufuscentibus, glabris, nigro-punctatis. *Folia* densa, petiolata, trifoliata, foliolis sessilibus, ad basin articulatis, ellipticis, subcoriaceis, obtusis, basi paululum attenuatis, acute duplicato-serratis, venosis, utrinque petiolisque punctis glandulosis, nigris notatis. *Pedunculi* bibracteati, superne incrassati, glandulosi. *Flos masculinus: Calyx* hinc ad basin fissus, 5-lobus, lobis late ovatis acutis, intus ad basin appendicibus membranaceis 10 auctus. *Corolla* nulla. *Stam.* 8, hypogyna: *Filamenta* calyce longiora, flexuosa: *Antheræ* subglobosæ, biloculares. *Germen* (abortivum) ovatum, trigonum: *Stigma* oblongum, sessile.

Hab. Coquimbo.—Of this we have to regret that the specimens are very indifferent; but they are sufficiently perfect for us to ascertain clearly the genus of the plant from the very remarkable structure of its flower; and that the species is an undescribed one, the leaves being covered with black, and, probably, when recent, viscid glands. The three species described by Humboldt have simple, not ternate, leaves.

Ord. XII. GERANIACEÆ. *DC.*

1. GERANIUM. *L'Herit.*

1. *G. pyrenaicum. Linn.—Feuill. Chil. v.* 3. *t.* 16.

Hab. Conception.

2. *G. Robertianum. Linn.*

HAB. Conception.

2. ERODIUM. *L'Herit.*

1. *E. cicutarium. L'Herit.*—Geranium cicutarium. *Linn.*

HAB. Conception.—This and the two Gerania above-mentioned were probably introduced with the seeds of Europæan vegetables, and have now become naturalized. We have specimens of them from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges.—Nearly allied to this order, and connecting it with the *Oxalideæ*, but which Mr. Don has referred to *Caryophylleæ*, next to *Mollugo*, is the genus *Viviania* of Cavanilles, "Ann. de Cienc. Nat. v. 7. p. 211. t. 49." At the time the account of it was published in the Botanical Miscellany, v. 1. p. 174, under the name of *Macræa*, given to it by Mr. Lindley in Brande's Journal of Science, v. 5. p. 104, we were not aware of its being identical with that of Cavanilles, whose name must, of course, be preferred. The same has also been described by Cambessedes, (Mém. du Mus. v. 18. p. 369. t. 18,) as a new Brazilian genus, and called *Cæsarea*. We regret to say that it does not appear to have been gathered by the Naturalists of the Expedition, but we possess specimens of three species from Mr. Cruckshanks, Mr. Macrae, and Dr. Gillies, from various parts of Chili. A fourth species from Chili (*V. parviflora*), we have not received: it has, however, been found by Mr. Macrae.

ORD. XIII. OXALIDEÆ. *DC.*

1. OXALIS. *Linn.*

1. *O.? glomerata;* acaulis, foliis trifoliolatis, foliolis linearibus, scapo petiolis elongatis duplo longiore, umbella multiflora capitata.

HAB. Coquimbo.—We have not been able to find more than three calycine segments to each flower, of an oblong shape, somewhat 3-toothed at the top; but it must be observed that the specimens are in a very imperfect state. There are 5 yellow petals, about the length of the calyx. The pedicels are bracteated at the base. Stamens 10: Stigmas 5. Pistil as in the genus.

2. *O. carnosa;* herbacea glabra, caule perbrevi dentibus cicatricato, foliolis ternis longe petiolatis obcordatis carnosis subtus punctato-chrystallinis, scapo trifloro, calycis foliolis duobus exterioribus majoribus planis, radice tuberosa. "*Molina.*"—*Lindl. in Bot. Reg. t.* 1063. *Hook. in Bot. Mag. t.* 2866.

HAB. Conception.—Mr. Collie notices this as a very succulent, acid, and powerfully antiscorbutic plant.

3. *O. laxa;* caule simplici folioso brevi, foliolis 3 late obcordatis supra pauce inferne densius pilosis ciliatis, petiolis pilosis, pedunculis folio duplo longioribus pilosis apice paniculam laxam gerentibus, sepalis pilosis angustissime lanceolatis.

HAB. Conception.—A small species, with numerous leaves and panicles, which latter exceed the foliage in length.

4. *O. parvifolia;* caulibus ramosis repentibus glabris, ramulis foliosis, pedunculis 1-floris, foliolis subrotundo-obovatis emarginato-bilobis ciliatis utrinque adpresso-pilosis, petiolis calycibusque pubescentibus, stylis longissimis. *DC.*—*Humb. et Kunth, Nov. Gen. v.* 5. *p.* 245. *De Cand. Prodr. v.* 1. *p.* 693.

HAB. Conception.—This is very nearly allied to *O. filiformis* of Humboldt, if it be not the same.

5. *O. rosea;* caule erecto carnoso folioso, pedunculis axillaribus longissimis apice corymboso-racemosis, foliolis obcordatis.

α. floribus majoribus, petalis lineatis roseis apice crenatis. (*Hook. in Bot. Mag. t.* 2830.) "*Jacq. Oxal. n.* 5." *De Cand. Prodr. v.* 1. *p.* 693.—O. floribunda. *Bot. Reg. t.* 1123. (not *Lehm.*)—Oxalis racemosa. *Lam. Dict. v.* 4. *p.* 684.—Oxalis roseo flore erectiore, vulgo *Cullé. Feuill. Chil. v.* 2. *t.* 23.

β. floribus minoribus, petalis vix lineatis rubris apice integerrimis. *Hook. l. c.*—O. rosea. *Sims in Bot. Mag. t.* 2415.

Hab. Conception.

Ord. XIV. TROPEOLEÆ. *Juss.*

1. TROPÆOLUM. *Linn.*

1. *T. tricolorum;* caule tenuissimo scandente ramoso, foliis peltatisectis, segmentis 6–7 oblongis obovatisve integris basi attenuatis, petiolis cirrhosis, petalis unguiculatis calyce persistente subclauso parum longioribus obtusis integerrimis. *Sweet, Br. Fl. Gard. v.* 3. *t.* 270.

Hab. Coquimbo.—We have in our collection *T. majus*, (Feuill. Chil. v. 3. t. 8. fig. super.,) from the Horticultural Society, gathered at Coquimbo and Valparaiso by Mr. Macrae; and from Mr. Bridges we have received a new Chilian species, common in bushy places in the mountains near Valparaiso, and there called *Flor de Perdiz*, which we propose thus to name and characterize: *T. brachyceras;* foliis peltatisectis, segmentis 6–7 oblongo-obovatis integris sessilibus, petalis conformibus, calycis segmentis obtusis calcare brevissimo obtusissimo.—The small size of the whole plant, particularly the flowers, and their short, thick, obtuse spur, distinguish it readily from all the others. Mr. Cruckshanks informs us that this is the other Chilian species, alluded to by Sweet, (Br. Fl. Gard.) under *T. tricolorum*, which has been introduced by him to our gardens, but no description of it has yet been published.

Ord. XV. RUTACEÆ. *Juss.*

1. RUTA. *Linn.*

1. *R. graveolens. Linn.*

Hab. Conception: cultivated.

Ord. XVI. CORIARIEÆ. *Juss.*

1. CORIARIA.

1. *C. ruscifolia;* foliis cordato-ovatis acutis sessilibus multinerviis, racemis nutantibus cylindraceis. *DC.*—*Linn. Sp. Pl. p.* 1467. *De Cand. Prodr. v.* 1. 739.—Coriaria ruscifolia, vulgo *Deu. Feuill. Chil. v.* 3. *p.* 17. *t.* 12.

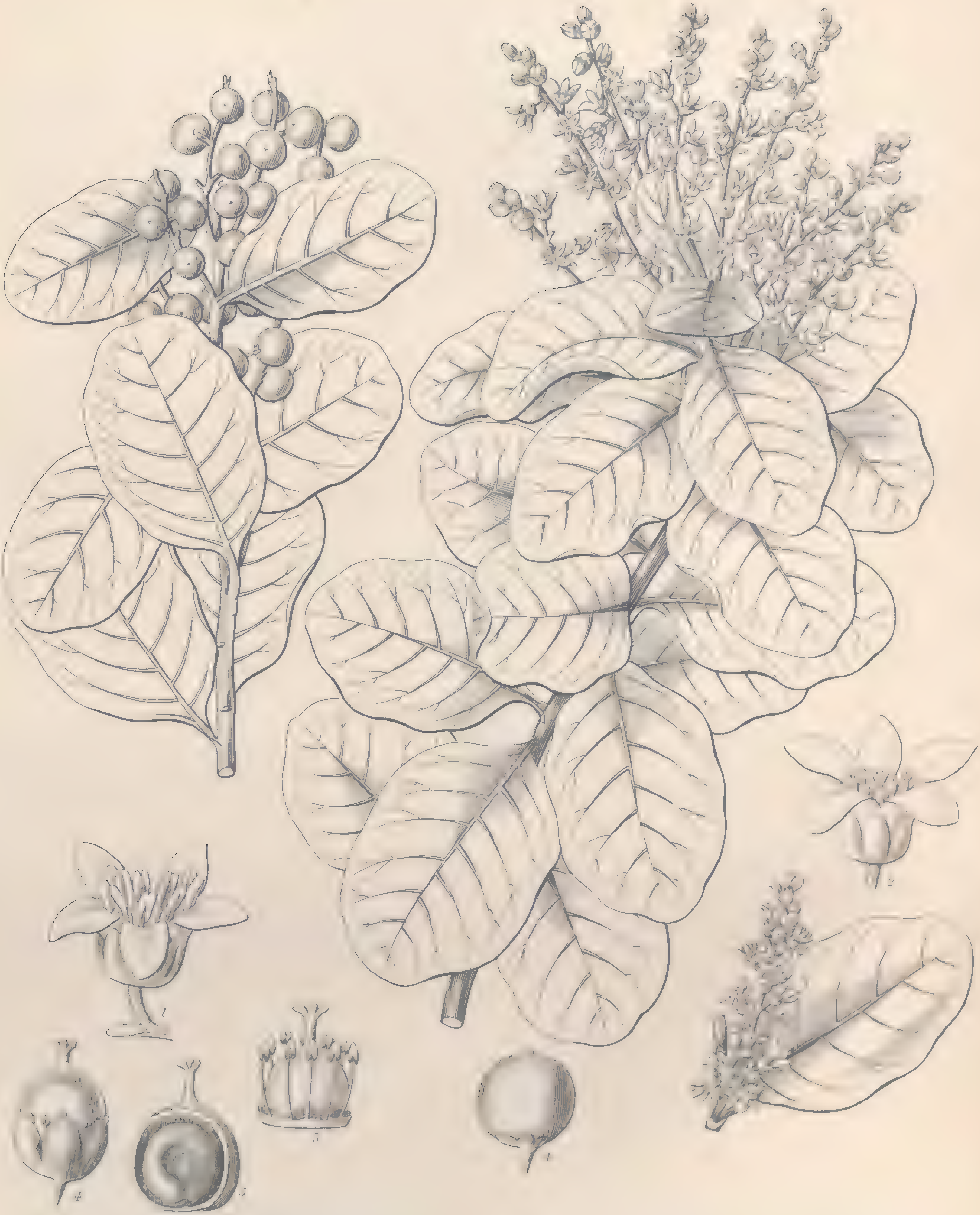
Hab. Conception.

Subcl. II. CALYCIFLORÆ.

Ord. XVII. CELASTRINEÆ. *Br.*

1. MAYTENUS. *Feuill.*

1. *M. chilensis;* foliis oblongis basi attenuatis apice acuminatissimis margine serratis.—



Rhus ? caustica.

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De Cand. Prodr. v. 2. *p.* 9.—Celastrus Maytenus. *Willd. Sp. Pl. v.* 1. *p.* 1127.—Senacia Maytenus. *Lam.*—*Maiten. Feuill. Chil. v.* 3. *p.* 39. *t.* 27.

HAB. Coquimbo.—We have also specimens of this from Mr. Cruckshanks and Dr. Gillies.

ORD. XVIII. RHAMNEÆ. *Br.*

1. COLLETIA. *Comm. Hook. in Bot. Misc. v.* 1. *p.* 151.

1. *C. spinosa;* spinis validis, florum fasciculis sparsis, calycibus urceolatis, filamentis elongatis exsertis.

α. glabra. *Hook. in Bot. Misc. v.* 1. *p.* 155. *t.* 44. A.—C. spinosa. *Lam. Ill. v.* 2. *p.* 90. *De Cand. Prodr. v.* 2. *p.* 28.—C. horrida. *Willd. Sp. Pl. v.* 1. *p.* 1113.—C. polyacantha. *Willd. in Roem. et Sch. v.* 5. *p.* 113.

β. pubescenti-incana.

HAB. *β.* Conception.

2. RETANILLA. *Brongn.*

1. *R. Ephedra. Brongn. in Ann. des Sc. Nat. v.* 10. *p.* 364. *t.* 14. *f.* 2.—Colletia Ephedra. *Vent. Choix des Pl. t.* 16. *De Cand. Prodr. v.* 2. *p.* 29. *Hook. in Bot. Misc. v.* 1. *p.* 159.

HAB. Conception: probably in the more elevated parts of the country.—We are informed by Mr. Cruckshanks that the generic name ought to be written *Retamilla,* being a diminutive of the Spanish *Retamo,* or Furze. Allied to these two is the genus *Trevoa,* of which, when it was described in the Botanical Miscellany, v. 1. p. 158, the flowers of only one of the species was known to us; we have, however, since received both in flower from Mr. Bridges, who adds, that *T. trinervis* is used for fences, and is very abundant on all the mountains near Valparaiso.

ORD. XIX. HOMALINEÆ. *Br.*

1. ARISTOTELIA. *L'Her.*

1. *A. Macqui. L'Her. Stirp. p.* 31. *t.* 16. *Lam. Ill. t.* 398. *De Cand. Prodr. v.* 2. *p.* 56.—" A. glandulosa. *Fl. Per. Syst. p.* 126."

HAB. Conception.

ORD. XX. TEREBINTHACEÆ. *Juss.*

1. RHUS. *Humb. & Kunth.*

1. *R.? caustica;* foliis simplicibus coriaceis ellipticis integerrimis cartilagineo-marginatis, racemis subpaniculatis axillaribus terminalibusque, floribus dioicis decandris, fructu drupaceo sicco. (TAB. VII.)—Laurus caustica. *Molina. Willd.* et aliorum.—" *Litri.*" nom. vernac. (*Gillies.*)—Llithi. *Feuill. Chil. v.* 3. *t.* 23. (fig. ad dextram.)

Var. *α.* ramis subpubescentibus, foliis glabris.

Var. *β.* ramis foliisque subtus pubescentibus.

Frutex valde ramosus; ramis subangulatis, in *α.* glabriusculis, in *β.* pubescenti-hirsutis. *Folia* alterna, sparsa, breve-petiolata, 2–3 uncias longa, elliptica, obtusa nunc cum mucrone obtuso, integerrima, coriacea, nonnumquam purpureo tincta, margine crasso cartilagineo, oblique parallelim nervosa, nervis utrinque pro-

minentibus, glabra, vel in β. subtus pubescentia. *Petiolus* vix semiunciam longus, supra planus. *Racemi* subpaniculati, axillares et terminales, nunc foliis longiores, nunc iis breviores. *Pedunculi* pedicellique magis minusve pubescenti-hirsuti, bracteati; bracteis parvis squamiformibus. *Flores* dioici. *Masc.* plerumque in racemis longioribus. *Cal.* 5-partitus, basi truncatus, laciniis erectis, oblongis, marginibus obscure ciliatis. *Petala* 5, oblongo-ovata, demum patentia. *Stam.* 10, 5 petalis opposita, 5 petalis alterna, sub disco inserta. *Filamenta* brevia. *Antheræ* oblongæ, birimosæ. *Pistillum* abortivum. *Germen* parvum, fere nullum, disco carnoso pateriformi coadunatum. *Stylus* brevis. *Stigma* 3-fidum, laciniis linearibus erectis. *Fæm.* *Cal.* et *Cor.* ut in mare. *Stamina* abortiva vix calycis longitudine. *Pistillum: Germen* subglobosum, uniovulatum, disco carnoso insertum. *Stylus* germine brevius. *Stigma* 3-fidum, laciniis capitatis, patentibus. *Pericarpium; Drupa* sicca, fulva, nitida, magnitudine seminis *Pisi sativi*, stylo perbrevi terminata. *Epicarpium* tenue, fragile. *Endocarpium* parcum, carnosum. *Nux* compressa, sphærica. *Semen* solitarium, inversum. *Embryo* arcuatus. *Podospermum* e fundo loculi ortum.

Hab. Conception.—There are so many points in common between this plant and the *Mauria simplicifolia* of Humb. and Kunth, Nov. Gen. v. 7. t. 605, that it is difficult not to believe them to be generically the same: but in *Mauria* the flowers are hermaphrodite; the stigma is solitary, thick, and angled, and the seed is pendulous: whereas, except in habit, our plant differs only from the simple-leaved species of *Rhus* in the greater number of its stamens; whence we have been led to refer it to that genus. This, Dr. Gillies, to whom we are also indebted for specimens, as well as to Mr. Cruckshanks and Mr. Bridges, considers to be the true "*Laurus caustica*" of Molina, the *Llithi* or *Litri* of the natives, on which our friend observes, "The statement made by Molina, relative to the poisonous nature of this tree, seems to be well founded; as I am informed, by several intelligent people, that individuals resting or sleeping under it at certain times of the year, are afterwards attacked with eruptions all over the body." We take this opportunity of stating, that we are enabled to correct, by means of Mr. Cruckshanks' remarks, a mistake in Feuillée, which has led most succeeding botanists into a serious error. Feuillée, in his description, attributes the same properties to this plant as Molina has since done, and says he has not seen the flower or fruit: yet the figure to which the name "*Llithi*" is affixed, represents a fruit larger than a chestnut; and Lamarck and Sprengel have, in consequence, described the *Laurus caustica* with such a fruit. But the whole has arisen from the names in the plate having been engraved under the wrong figures; the plant on the right without fruit is the *Llithi*; while that in fruit on the left is the *Lucuma obovata*.

Tab. VII. *Fig.* 1, Male flower; *fig.* 2, Female flower; *fig.* 3, Flower from which the calyx and corolla are removed; *fig.* 4, Fruit; *fig.* 5, Section of do.:—*magnified.*

Ord. XXI. LEGUMINOSÆ. *Juss.*

1. SPARTIUM. *DC.*

1. *S. junceum. Linn.—De Cand. Prodr. v.* 2. *p.* 145.

Hab. Conception. Doubtless introduced from Europe.

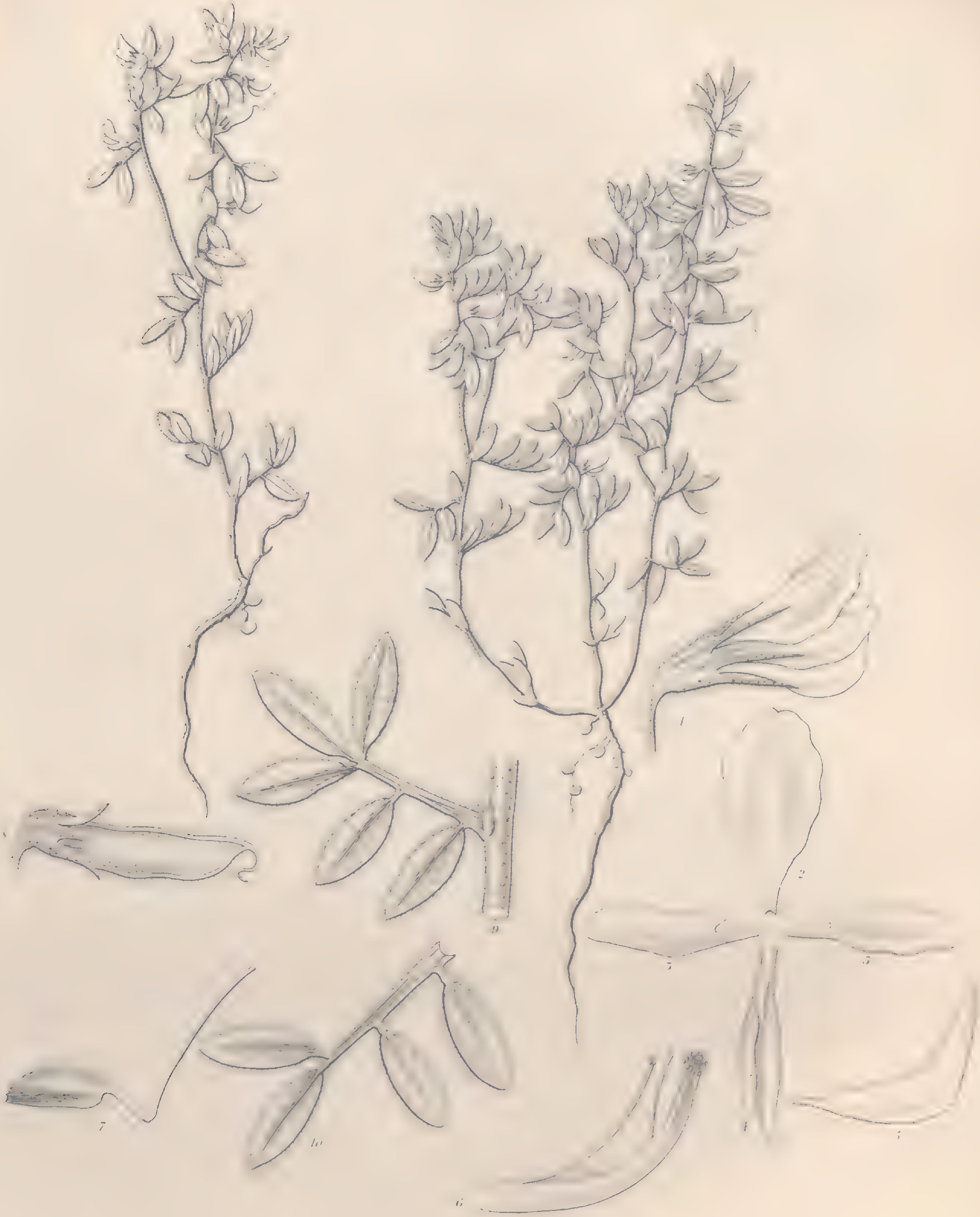
2. TRIFOLIUM. *Tourn.*

1. *T. grandiflorum;* caule repente, foliolis obcordatis striatis denticulatis petiolisque pilosis, stipulis ovalibus apice longe aristatis, pedunculis vix pilosis adscendentibus petiolo triplo longioribus, calyce campanulato piloso, laciniis inæqualibus lanceolatis tubum superantibus, corollis calyce 5–6-plo longioribus scariosis persistentibus.

Hab. Conception.—To this species the *T. obcordatum* of Desvaux, from Buenos-Ayres, is, perhaps, closely allied: but our plant belongs to a different section, the "*Lupinaster*," as does the next species. The involucrum is small and many-leaved.

2. *T. chilense;* caule diffuso glabro, foliolis anguste oblongo-obovatis argute denticu-

TAB. VIII.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Lotus subpinnatus. Lag.

latis glaberrimis petiolum æquantibus, stipulis ovalibus membranaceis nervosis pectinato-fimbriatis, capitulo longe pedunculato, involucro floribus breviore multifido aristato, calyce campanulato laciniis tridentato-aristatis dente medio cæteris multo longiore corollam æquantibus.

Hab. Conception.—Nearly allied to *T. fimbriatum* of Mr. Lindley in the Bot. Reg. t. 1070, from California; but the leaflets are narrow and different in figure, the stipules rounded, shorter, and the whole plant is more slender.

3. *T. depauperatum;* multicaule, caulibus decumbentibus subsimplicibus, foliolis linearibus subcuneiformibus apice dentatis glabris, capitulis pedunculatis terminalibus paucifloris (3–5), involucro monophyllo integro breviter truncato, calyce glabro, vexillo fructifero inflato.—*Desv. in Journ. de Bot.* 1814. *p.* 69. *t.* 32. *De Cand. Prodr. v.* 2. *p.* 203.

Hab. Conception.—It is well observed of this curious little plant, by its original describer, Desvaux, that it should form a distinct section in this genus. Its nearest affinity is with the section "*Vesicastrum*" of De Candolle's Prodromus; but there it is the upper lip of the calyx which becomes inflated, here the standard of the corolla. The flowers are sessile within the minute truncated involucre.

3. MELILOTUS. *Tourn.*

1. *M. parviflora. Desf. Fl. Atl. v.* 2. *p.* 192. *De Cand. Prodr. v.* 2. *p.* 187.

Hab. Conception. Introduced?

4. MEDICAGO. *Linn.*

1. *M. denticulata,* α. et β. *Benth. Cat. Pl. Pyr. p.* 103.

Hab. Conception.

5. LOTUS. *Linn.*

1. *L. subpinnatus;* annuus pilosus, caulibus erectis, foliis pinnatis exstipulatis, foliolis 5–6, 2 vel 3 terminalibus, 2 unilateralibus ellipticis, pedunculis brevissimis axillaribus solitariis unifloris, leguminibus rectis compressis marginatis hirsutis. (Tab. VIII.)—"*Lagasc. Nov. Gen. p.* 23."—"Lotus utricularis. *Domb. et Lag. Herb.*"—Anthyllis chilensis. *De Cand. Prodr. v.* 2. *p.* 71.

Radix parva, annua, gracilis, sublonge descendens, basin versus fibrosa, fibris tuberculiferis. *Caules* 1–3 ex eadem radice, erecti, flexuosi, patentim hirsuti, subramosi. *Folia* pilosa, remotiuscula, nisi ad extremitatem ramorum, exstipulata, pinnata; pinnulis 4–5, quorum tres terminales, nunc unica abortiente, 2 unilaterales, remotæ. *Petiolus* compressus, latiusculus, superne canaliculatus, basi in axilla (foliorum inferiorum,) gemmam solitariam hirsutam, (florem abortivum,) gerens. *Pedunculus* perbrevis, vix lineam longus, axillaris, solitarius, hirsutus, uniflorus. *Calyx* valde hirsutus, campanulatus, 5-fidus, laciniis subulatis, subæqualibus. *Vexillum* obovatum, inferne attenuatum. *Alæ* vexillum subæquantes, appressæ. *Carina* in rostrum obtusum attenuata. *Stamina* diadelphia. *Germen* oblongum, hirsutissimum, 3-ovulatum. *Stylus* gracillimus, inferne geniculatus, glaber. *Stigma* obtusum, neque subulatum neque capitatum. *Legumen* lineari-oblongum, patens, compressum, læve, marginatum, pilosum, styli basi uncinata terminatum.

Hab. Conception.—Whether or not this plant should continue in the genus *Lotus* is a matter of doubt. Its nearest affinity is with *Lotus tetraphyllus* of Linn. fil., having, like it, more leaflets than the three terminal ones usual in the genus; in *L. tetraphyllus*, there is *one* additional; in our plant *two*, and these two are constantly unilateral. The former, however, has a capitate stigma; ours an obtuse one: in these respects also departing from the true *Loti*, in which, as now circumscribed, the stigma is subulate. From

Hosackia, Benth., to which it approaches by the tendency to a pinnate leaf, it differs by the appressed alæ, the entire absence of stipules, and the solitary flowers. De Candolle seems to have observed monadelphous stamens in his specimens, hence he has been led to refer this plant to the genus *Anthyllis;* but we find the stamens to be truly diadelphous.

Tab. VIII. *Lotus subpinnatus. Fig.* 1, Flower; *fig.* 2, Vexillum; *fig.* 3, 3, Alæ; *fig.* 4, Carina; *fig.* 5, Side view of the carina; *fig.* 6, Stamens and pistil; *fig.* 7, Pistil; *fig.* 8, Legumen; *fig.* 9, Leaf with three terminal leaflets; *fig.* 10, Leaf with only two terminal leaflets.

6. PSORALEA. *Linn.*

1. *P. glandulosa. Linn.—Bot. Mag. t.* 900. *De Cand. Prodr. v.* 2. *p.* 220.—Barba Jovis, &c. vulgo *Culen. Feuill. Chil. v.* 3. *p.* 7. *t.* 3.

Hab. Conception.—This plant, according to Feuillée, is employed by the natives as a vulnerary and purgative, and its dried leaves are often used instead of tea.

7. ASTRAGALUS. *DC.*

1. *A. procumbens;* ubique hirsuto-tomentosus, caule prostrato ramosissimo, stipulis concretis liberis, foliolis 11–14-jugis ellipticis retusis, pedunculis folio longioribus racemosis, alis carina duplo brevioribus, leguminibus (vix maturis) linearibus hirsutis reflexis.

Radix perennis, descendens. *Caules* plurimi, procumbentes, diffusi, inferne fruticosi, bipedales et ultra, teretes, molliter tomentosi, valde ramosi. *Folia* digitalia, pinnata cum impari: foliolis tomentoso-hirsutis, breviter petiolulatis, ellipticis, retusis, 11–14-jugis. *Stipulæ* a petiolo liberæ, ovatæ, membranaceæ, inter se hinc coalitæ. *Pedunculi* axillares, folio duplo longiores, hirsuti, apice racemum brevem gerentes. *Flores* sparsi, pallide purpurei. *Calyx* tubulosus, 5-dentatus, dentibus setaceis. *Carina* obtusa, apice intense purpurea. *Alæ* carina duplo breviores.

Hab. Conception.—This belongs to De Candolle's tribe, *Hypoglottidei*, and is nearly allied to the *A. Garvancillo* of Cavanilles; nor is it far removed from *A. unifultus* of De Candolle. But those plants, besides their differential characters, are natives of Peru.

2. *A. prostratus;* diffusus, foliolis subpubescentibus obtusis, stipulis inter se et a petiolo liberis, racemis pedunculatis folio multo longioribus, floribus laxiusculis subsessilibus purpurascentibus, calyce nigro-pubescente.

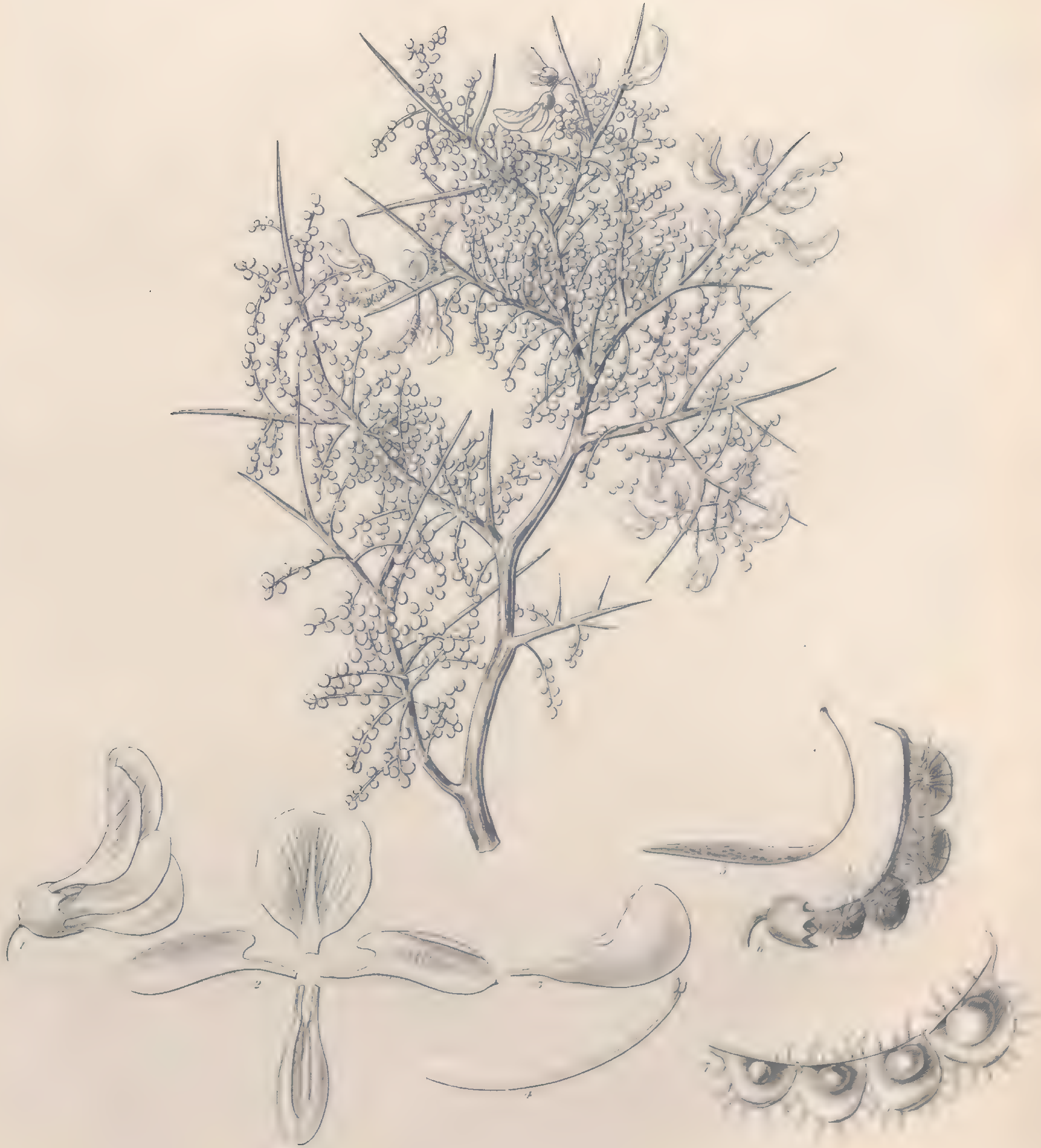
Hab. Conception.—This belongs to the section of *Astragalus*, "*Dissitiflori*," *DC.*; but on account of the absence of fruit, and the paucity of specimens, we cannot give a satisfactory description. The flowers are in rather long, spiked racemes, and somewhat drooping.

8. ADESMIA. *DC.*

1. *A. papposa;* caule herbaceo adscendente basi folioso et villoso, foliolis 8–10-jugis obovatis retusis cum mucrone parce pilosis, racemo terminali longissimo composito glabro multifloro, floribus remotis, calyce eglanduloso.—*De Cand. Prodr. v.* 2. *p.* 319.

Hab. Conception.—With the fruit of this we are unacquainted, but if, as we believe, the plant is the same as De Candolle's *A. papposa*, it is covered with soft feathery setæ. The species differs, however, from that author's character and description, in which the leaves are said to be ovali-lanceolate, and the flowers in a compact raceme. The whole plant is free from glands, in which respect it is at variance with what we conceive to be *A. longiseta* of De Candolle, the only other known herbaceous species of the section, and of which we have received beautiful specimens from Mr. Cruckshanks and Mr. Bridges. In both the alæ are wrinkled transversely at the back, their claws are united with the base of the claw of the vexillum for nearly their whole

TAB. IX.



Adesmia microphylla.

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length, and two of the stamens are equally united, one on each side the vexillum, with these combined claws. The other eight stamens are free. The germen is linear, glabrous; the style filiform and much curved. In our *A. papposa*, the base of the limb of the vexillum has a tuft of hairs, and the upper teeth of the calyx are remarkably short.

2. *A. microphylla;* caule fruticoso ramosissimo, ramulis striatis pubescentibus divaricato-spinescentibus, foliolis minimis 6-jugis orbicularibus brevissime petiolulatis pubescentibus, racemis subcapitatis terminalibus simplicibus spinescentibus, bracteis orbicularibus, leguminibus triarticulatis, setis longissimis plumosis basi rigidiusculis nudis. (TAB. IX.)

Frutex decumbens, valde dichotomeque ramosus, ramis divaricatis, striatis, spinescentibus, tuberculiferis, tuberculis squamosis (e stipulis vetustis, persistentibus), foliiferis. *Folia* pari-pinnata, subcarnosa, pubescentia, foliolis minutissimis subsexjugis, oppositis, remotis, brevissime petiolulatis, cito deciduis. *Stipulæ* duæ, parvæ, ovatæ, in unam bifidam concretæ, persistentes. *Racemi* terminales, 6–8-flori, subcapitati, rachi demum spinescente. *Bractea* parva, subrotunda. *Pedicelli* semiunciam longi. *Calyx* campanulatus, breviter 5-dentatus, pubescens. *Petala* staminaque libera. *Alæ* extus transversim rugosæ. *Legumen* triarticulatum, articulis semiorbiculatis, setis longissimis, flexuosis, plumosis, basi nudis, rigidiusculis dense tectis.

HAB. Valparaiso.—This and the following species belong to a groupe of *Adesmiæ* hitherto undescribed, having fruticose, spinescent stems, and small rigid and somewhat fleshy leaves, a plumoso-setose fruit, and free stamens and petals; of which several have been collected in Chili and Mendoza by Dr. Gillies and Mr. Cruckshanks. The present species was first detected by Mr. Menzies, whose specimens we possess. It has also been gathered by Mr. Macrae.

TAB. IX. *Adesmia microphylla. Fig.* 1, Flower; *fig.* 2, Petals separated from the calyx; *fig.* 3, Carina; *fig.* 4, Single stamen; *fig.* 5, Pistil; *fig.* 6, Legumen; *fig.* 7, Inner view of one of the valves:—*magnified.*

3. *A. glutinosa;* caule fruticoso ramoso, ramulis patentibus glanduloso-hirsutis glutinosis spinescentibus, foliolis subtrijugis ellipticis hirsutis, racemis elongatis terminalibus simplicibus spinescentibus bracteisque linearibus glanduloso-hirsutis, leguminibus triarticulatis longissime setoso-plumosis.

HAB. Coquimbo.—This differs from the preceding in its larger leaflets, longer racemes, narrower bracteæ, longer pedicels, and in the viscid glands and patent hairs which clothe all the younger parts of the plant except the corolla.—The genus *Adesmia* has been divided by De Candolle into two sections; the one *Patagonium*, characterised by the pods of from 4 to 8 joints, and either scabrous or puberulous: the other, *Chætotricha*, having a pod of 2 joints, wrinkled, and bearing plumose setæ. He even thinks the latter ought to form a distinct genus. We, however, possess some that cannot be referred to either section, but are intermediate; nor do we think the arrangement otherwise a natural one: we prefer, therefore, the subjoined division, and will notice some other species not in the collection, but which we have received from Chili.*

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* SECT. I. Herbæ *annuæ.* Flores *inferiores axillares solitarii pedunculati, versus caulis apicem, foliis decrescentibus, paniculam efformantes.* Habitus *Smithiæ.*—Huc *A. muricata, Smithiæ,* et *hispidula. DC.*

1. *A. tenella;* pubescenti-hirsuta eglandulosa, caulibus procumbentibus simplicibus, foliolis 3-4-jugis nunc cum impari obovatis obtusis retusisve pedicellis inferioribus folium æquantibus, calycis laciniis ovato-lanceolatis subæqualibus, legumine 2–3-articulato rugoso muricato calycem æquante.

HAB. Chili. *Mr. Cruckshanks.* Hills near Valparaiso. *Mr. Bridges.*

2. *A. angustifolia;* pubescenti-hirsuta eglandulosa, caulibus procumbentibus, foliolis remotis 4–5-jugis linearibus obtusiusculis, pedicellis inferioribus folio multo brevioribus, calycis laciniis lanceolatis subæqualibus, legumine 5–6-articulato rugoso pilis raris rigidis plumosis calyce duplo longiore.

9. VICIA. *Tourn.*

1. *V. nigricans;* pubescens, caule tetragono, foliolis 9–10 oblongo-ellipticis obtusis alternis, cirrhis divisis, stipulis semisagittatis, pedunculis folio duplo longioribus multifloris, floribus confertis, calycis dentibus 2 superioribus subnullis inferioribus subulatis, medio elongato tubum superante, stigmate barbato.

Hab. Conception.—This seems to be a long straggling plant, which always turns black in drying, like *Orobus niger*. The leaflets are rather more than an inch long; the flowers almost capitate.

2. *V. parviflora;* parce pilosa, foliolis 3–4-jugis anguste linearibus acuminatis, cirrhis subsimplicibus, stipulis semisagittato-linearibus integris, pedunculis folio brevioribus bifloris, calyce brevi-campanulato dentibus lanceolatis tubum æquantibus, corolla glabra, leguminibus 6-spermis lanceolatis compressis, suturis pilosis.

Hab. Conception.—This species is closely allied in habit to *Ervum tetraspermum*, and has an equally small flower: but the shape of the legumen is very different, and the stigma is that of a *Vicia*.

3. *V. linearifolia;* tota pilosa, caule angulato, foliolis 5-jugis linearibus retusis, cirrhis subsimplicibus, stipulis latiusculis semisagittatis basi dentatis impunctatis, floribus subsessilibus solitariis, calyce campanulato villoso dentibus subulatis subæqualibus, corolla glabra, legumine hirsuto.

Hab. Conception.—In some respects this approaches *Vicia Michauxii*, Spr., but there is no species with which it quite coincides in character. The flowers are not half the size of those of *Vicia sativa*, with some of the narrow-leaved varieties of which it coincides in other respects.

10. LATHYRUS. *Linn.*

1. *L. sessilifolius;* glaber nigricans, caule angulato vix alato, foliis unijugis petiolo perbrevi cirrhifero, foliolis lineari-lanceolatis stipula semisagittato-ovata petiolum qua-

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Hab. Valparaiso. *Mr. Bridges.*

Sect. II. *Perennes herbaceæ, racemi longissimi aphylli terminales paniculati.*—Habitus *Onobrychidis.*—Huc forsan *A. dentata, bicolor, pendula* et *punctata. De Cand.*, at de duratione nihil prostat; certe tamen *A. papposa,* atque *longiseta.*

3. *A. conferta;* adscendens pubescens, foliolis 6-jugis obovato-oblongis retusis cum mucrone versus petioli apicem approximatis, racemo terminali composito nigro-glanduloso multifloro, pedicellis fructiferis deflexis, calycis laciniis ovatis, legumine 3–4-articulato muricato glanduloso.

Hab. Chili. *Mr. Cruckshanks.*

Sect. III. *Caules fruticosi spinescentes.*—Huc *A. microphylla* et *glutinosa*, quædamque species ineditæ, in ascensu orientali Andium a Mendoza ad jugum "Uspallata" lectæ.

Sect. IV. *Fruticosæ inermes.*—Habitus *Zuccagniæ.*

4. *A. balsamica;* glandulis resinosis dense obsita, caule ramosissimo, foliis sub 10-jugis cuneato-oblongis sæpissime cum impari, legumine 6-articulato (juniore) sericeo.—*Bertero in Ann. des Sc.*—Mimosa balsamica. *Molin. Chil.*

Hab. Chili. *Mr. Cruckshanks.* West side of La Cuesta de la Dormida, in Chili. *Dr. Gillies.*—This is called in Chili "*Jarilla.*" Dr. Gillies informs us that Molina refers to this plant in his History of Chili, vol. i. p. 134, Engl. ed., where he calls it *Mimosa balsamica;* and Bertero, in a letter published in the Bulletin des Sciences Naturales, for 1830, names it *Adesmia balsamica.* His appellation we therefore adopt. The plant, besides being of great beauty, yields a balsam of a highly agreeable odour, which is perceptible at a great distance, and is found to be of much efficacy in healing wounds.

druplo superante multoties longioribus, pedunculis folio duplo longioribus subquinquefloris, calyce campanulato nervoso dentibus subæqualibus.

Hab. Conception.—Closely allied on one hand to *L. sylvestris*, and on the other to *L. pratensis*, but distinguishable by the above characters. From *L. magellanicus*, Lam., it seems to differ principally in the shape of its leaflets.

2. *L. pubescens;* superne molliter pubescens, caule alato, foliis cirrhosis unijugis, foliolis oblongo-lanceolatis petiolum duplo superantibus, stipulis semisagittato-ovatis petiolo subdimidio brevioribus, pedunculis folio longioribus multifloris, calyce tubuloso pubescente dentibus lanceolatis.

Hab. Conception.—This has many points in common with *L. sylvestris;* but the latter is never pubescent. It is found at Valparaiso by Mr. Bridges and Mr. Macrae, and in the islands in the Parana River, on the Eastern side of the Andes, by Mr. Baird. Besides these two in the collection, we have another fine species of *Lathyrus* from Conception, gathered by Mr. Macrae, and in Valparaiso by Mr. Bridges and Mr. Cruckshanks. It belongs to a groupe with many leaflets and many flowers, but is easily distinguished from them all by the smallness of its stipules. It may be thus named and characterized: *L. Macræi;* pilosiusculus, caule angulato, foliolis sub 6-jugis ellipticis retusis penninerviis reticulatim venosis subtus albido subpellucidoque-punctatis, stipulis parvis semisagittatis integerrimis, pedunculis multifloris folio longioribus, calycis lacinia inferiori longissima subulata, superioribus brevissimis, stylo lineari utrinque, sed supra præcipue, piloso.

11. LUPINUS. *Tourn.*

1. *L. microcarpus;* floribus verticillatis sessilibus bracteolatis, calycis labio superiore brevissimo emarginato, inferiore 3-dentato, bracteis reflexis, foliolis oblongo-linearibus, leguminibus rhombeis dispermis hirsutis. *DC.—Sims in Bot. Mag. t.* 2413. *De Cand. Prodr. v.* 1. *p.* 408.

Hab. Conception.

12. ACACIA. *Neck. Willd.*

1. *A. Cavenia;* spinis stipularibus semiuncialibus geminatis rectis, petiolis inermibus obscure uniglandulosis, pinnis subquinquejugis, foliolis (minutis) 9–10-jugis lineari-oblongis pubescenti-scabris, pedunculis axillaribus aggregatis simplicibus, capitulis globosis, floribus polyandris.—Mimosa Cavenia. *Molin. Chil.*

Hab. Valparaiso.—Of this we have no fruit, and but one very small and imperfect specimen in flower exists in the collection. It is, however, the same with an *Acacia* we have received from Valparaiso, gathered by Mr. Bridges, of which he observes that the blossom is called "*Flor de Aroma*, and the tree *Espino* by the inhabitants, that it is used for various purposes, especially for yielding the best charcoal, that the fragrance of the flowers is very great, being perceptible at a considerable distance, and that immense tracts of land near Talca are completely covered with the tree." Again, Dr. Gillies has the same plant from a garden at Buenos Ayres, and remarks that "it is identical, to all appearance, with the *Espino* of Chili, which is upwards of twenty feet in height." Thus, it would seem to be an important and well-known plant in Chili; yet we do not find it any where noticed, except by Molina, who calls it *Mimosa Cavenia.* Its nearest affinity is with the *A. revoluta* of Kunth, (Mimos. t. 26,) but there the spines are larger and stouter, the pinnæ of only 3 pairs, and the flowers decandrous. It is also closely allied to *A. eburnea*, Linn. Unfortunately we have no fruit on any of our specimens. There is a small sessile gland beneath the lower pair of leaflets, which is, however, very obscure in Mr. Bridges' specimens. The flowers are yellow. It is now cultivated in the Glasgow Botanic Garden, from seeds sent by Mr. Cruckshanks, but has not yet blossomed.

13. ZUCCAGNIA. *Cav.*

1. Z.? *angulata;* caule glabro ramisque angulatis, foliis conjugato-pinnatis subbipinnatisque, foliolis (minutis) ovali-orbicularibus, racemis terminalibus pubescenti-glandulosis.

HAB. Coquimbo.—Our specimens of this plant are by no means in a sufficiently perfect state to decide even the genus; but it appears to us a *Zuccagnia,* and, if so, a very distinct species from the *Z. punctata* of Cav. (Ic. v. 5. t. 403.)

14. CASSIA. *Linn.*

1. *C.* (Sect. *Coluteoideæ. DC.*) *stipulacea;* foliolis 8-jugis ovato-lanceolatis glabris, glandula inter inferiora, stipulis ovatis maximis. *DC.—Ait. Hort. Kew. ed.* 2. *p.* 52. *Feuill. Chil. v.* 3. *p.* 56. *t.* 42.

HAB. Conception.

2. *C. frondosa;* foliolis 9-jugis ovali-oblongis glabriusculis obtusiusculis, glandula cylindrica inter par foliorum infimum, racemis axillaribus foliis brevioribus. *DC.—Ait. Hort. Kew. ed.* 2. *p.* 36. *De Cand. Prodr. v.* 2. *p.* 496.

HAB. Coquimbo.

ORD. XXII. ROSACEÆ. *Juss.*

1. PRUNUS. *Tourn.*

1. *P. domestica. Linn.—De Cand. Prodr. v.* 2. *p.* 533.

HAB. Conception. Introduced.

2. ACÆNA. *Vahl.*

1. *A. argentea;* spicis globosis, caule repente, foliolis 3–4-jugis ovato-oblongis serratis subtus sericeis. *DC.—Ruiz et Pav. Fl. Per. v.* 1. *p.* 67. *t.* 103. *f. b. De Cand. Prodr. v.* 2. *p.* 593.—Proquin. *Feuill. Chill. v.* 3. *t.* 41.

HAB. Conception.

2. *A. trifida;* spicis globosis, caule erecto foliisque tomentoso-canescentibus cuneiformibus 3–5-fidis 7–8-jugis. *DC.—Ruiz et Pav. Fl. Per. v.* 1. *p.* 67. *t.* 164. *f. c. De Cand. Prodr. v.* 2. *p.* 593.

HAB. Conception.

3. GEUM. *Linn.*

1. *G. chiloense;* foliis caulinis tripartitis laciniatis, radicalibus interrupte lyratis pilosis, lobo terminali rotundato subtrilobo crenato, floribus paniculatis, carpellis villosissimis. *Lindl.—Balbis in De Cand. Prodr. v.* 2. *p.* 551.—G. chilense. *Bot. Reg. t.* 1348.—G. Quellyon. *Sweet, Br. Fl. Gard. t.* 292.—G. coccineum. *De Cand. Prodr. v.* 2. *p.* 551. (non *Sm.*) *Bot. Reg. t.* 1088.—*Feuill. Chil. v.* 2. *t.* 27.

HAB. Conception.—This splendid species, which has been confounded with the *G. coccineum* of Greece, is now one of the greatest ornaments of our gardens, being perfectly hardy, even in Scotland. It is called *Quell-gon* by the natives, according to Feuillée.

4. FRAGARIA. *Tourn.*

1. *F. chilensis. Ehrh.—De Cand. Prodr. v.* 2. *p.* 571.—*Dill. Hort. Elth. t.* 20. *f.* 140.

HAB. Conception.

ORD. XXIII. ONAGRARIÆ. *Juss.*

1. FUCHSIA. *Plum.*

1. *F. macrostema;* ramis glabris, foliis 3-verticillatis ovatis acutis denticulatis breviter petiolatis, pedicellis axillaribus flore longioribus nutantibus, calycis lobis oblongis acutis petala obovata patentia superantibus, stigmate 4-lobo. *Ser.—Ruiz et Pav. Fl. Per. v.* 3. *t.* 324. *f.* 6. *Lodd. Bot. Cab. t.* 1062. *De Cand. Prodr. v.* 3. *p.* 37.—Thilco. *Feuill. Chil. v.* 3. *t.* 47.—F. gracilis *β.* macrostema. *Bot. Reg. p.* 1052.

HAB. Conception.—Sir James E. Smith in Rees' Cycl., and even De Candolle, appear doubtful if this should be distinguished from *F. coccinea;* while, on the other hand, the author of the Botanical Register makes it a var. of the *F. gracilis* from Chili, (not Mexico,) notwithstanding that the name of Ruiz and Pavon is by far the older. The *F. lycioides,* (*Lun,* Feuill. Chil. v. 3. t. 24,) though not in the collection, we have received from Valparaiso, transmitted by Mr. Macrae, Mr. Cruckshanks, and Mr. Bridges.

2. ŒNOTHERA. *Linn.*

1. *Œ. dentata;* foliis sublinearibus denticulatis, capsulis cylindraceis angustissimis curvatis, stigmate globoso. *Ser.—Cav. Ic. v.* 4. *p.* 67. *t.* 398. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 317. *Lindl. Coll. t.* 10. *De Cand. Prodr. v.* 3. *p.* 46.—Œ. micrantha. *Spr.*—Œ. hirta et Œ. Chamissonis. *Link.* (*DC.*)

HAB. Conception; as well as the three following. We have them all, likewise, as well as *Œ. tenuifolia,* of Ruiz and Pavon, from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges.

2. *Œ. mollissima;* caule ramoso, foliis lineari-lanceolatis subundulatis molliter villosis repando-dentatis, petalis obovatis genitalibus vix longioribus flavis dein rubris, stigmatibus filiformibus, capsulis mollibus longissimis. *Ser.—Linn. Sp. Pl. p.* 192. *De Cand. Prodr. v.* 3. *p.* 48.—*Dill. Elth. f.* 286.—Mithon. *Feuill. Chil. v.* 3. *t.* 34?

3. *Œ. tenella;* caule simplici stricto, foliis lineari-spathulatis, petalis obovatis obtusissimis violaceis, stylo staminibus erectis longiore et petalis multo breviore, stigmatibus obovatis brevibus, capsulis cylindrico-tetraquetris tomentosis bractea longioribus. *Ser.—Cav. Ic. v.* 4. *p.* 68. *t.* 396. *f.* 2. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 316. *De Cand. Prodr. v.* 3. *p.* 48.—Onagra Linariæ folio, &c. *Feuill. Chill. v.* 3. *t.* 34.

4. *Œ. acaulis;* foliis rosulatis pinnatisectis, lobo terminali maximo denticulato, tubo floreque maximis, laciniis calycinis liberis reflexis, petalis obovatis subretusis integris, antheris stigmatibusque tenuibus corolla brevioribus, capsula obovata tetragona subulata sessili. *Ser.—Cav. Ic. v.* 4. *p.* 68. *t.* 399. *De Cand. Prodr. v.* 3. *p.* 49.

β. major; caule pedali, foliis alternis. *Ser.—Ruiz et Pav. Fl. Per. v.* 3. *t.* 318. *f.* 6.

ORD. XXIV. LOASEÆ. *Juss.*

1. LOASA. *Adans.*

1. *L. acerifolia;* foliis suboppositis basi cordatis 5–7-lobis, lobis acutis dentatis, pedicellis folio florali brevioribus, lobis calycinis oblongis acuminatis. *DC.—Juss. Ann. Mus. v.* 5. *p.* 24. *t.* 1. *f.* 3. *De Cand. Prodr. v.* 3. *p.* 341.

HAB. Conception.—Although De Candolle has described six species of the genus from Chili, particularly from Conception and Valparaiso, and several new ones exist in our collection from the same country, this, as far as we can collect from the notes and specimens, seems to have been the only one observed.

ORD. XXV. PORTULACEÆ. *Juss.*

1. CALANDRINA. *Humb. & Kunth.*

1. *C. pilosiuscula;* caule suberecto angulato foliisque lineari-spathulatis pilosiusculis, pedicellis axillaribus folio florali subadnatis racemum terminalem constituentibus.—*De Cand. Prodr. v.* 3. *p.* 359.—Talinum ciliatum. *Hook. Exot. Fl.* 1. *t.* 82. (non *Ruiz et Pav. sec. De Cand.*)—Tutuca. *Feuill. Chil. v.* 3. *t.* 41.

HAB. Conception.—The *Talinum adscendens,* Hort. Berol., according to specimens and seeds we have received from Dr. Fischer of St. Petersburgh, which De Candolle has referred as a variety to *C. compressa,* Schrad., proves to be identical with *C. pilosiuscula.* Perhaps even *C. compressa* is a mere variety, with fewer stamens.

2. *C. tenella;* caule adscendente basi ramoso, foliis anguste linearibus glabris, racemo terminali ramoso, sepalis glabris triangularibus cordatis acuminatis.

HAB. Valparaiso.—Very closely allied to the last species, from which it principally differs by its small size and its quite glabrous, not ciliated, leaves, which, moreover, have no tendency to become spathulate.

ORD. XXVI. PARONYCHIEÆ. *St. Hil.*

1. CORRIGIOLA. *Linn.*

1. *C. deltoidea;* caule prostrato, foliis deltoideis longe petiolatis, racemis lateralibus basi bractea spathulata instructis.

HAB. Conception.—This plant bears a strong resemblance to *C. littoralis,* having a bractea at the base of the lateral racemes; but in the latter the leaves are oblong or spathulate, of the same shape with the bracteas; here they are of a deltoid figure, as in some species of *Chenopodium,* but much smaller.

ORD. XXVII. CRASSULACEÆ. *De Cand.*

1. TILLÆA. *Mich.*

1. *T. erecta;* caule basi simpliciter ramoso erecto, foliis connatis oblongo-linearibus, floribus brevissime pedicellatis axillaribus solitariis 4-fidis, petalis 4 erectis calycem æquantibus.

HAB. Conception.—We have nothing to add to the specific character, farther than that it most resembles *T. moschata,* which, however, has a very different habit.

Ord. XXVIII. FICOIDEÆ. *Juss.*

1. TETRAGONIA. *Linn.*

1. *T.* (Sect. *Tetragonoides, DC.*) *expansa;* herbacea, foliis petiolatis ovato-rhombeis, floribus sessilibus, fructibus 4 cornutis 6–8-spermis. *DC.—Ait. Hort. Kew. v.* 2. *p.* 178. *De Cand. Pl. Grass. t.* 114. *Prodr. v.* 3. *p.* 452.—T. cornuta. *Gært. Fruct.* 2. *t.* 179. *f.* 3.—T. halimifolia. *Forst. Prod.* 223.

Hab. Conception. Probably introduced.

Ord. XXIX. GROSSULARIEÆ. *De Cand.*

1. RIBES. *Linn.*

1. *R.* (Sect. *Ribesia, DC.*) *punctatum;* foliis trilobis serratis subtus punctatis, racemis pendulis brevibus, bracteis oblongis ciliatis punctatis, calycibus flavicantibus. *DC.—Ruiz et Pav. v.* 3. *p.* 12. *t.* 233. *f. a. De Cand. Prodr. v.* 3. *p.* 482.

Hab. Conception.

Ord. XXX. LORANTHEÆ. *Juss.*

1. LORANTHUS. *Linn.*

1. *L. tetrandrus;* ramis compressis junioribus rufescenti-pubescentibus, foliis ovatis breve petiolatis, floribus aggregato-umbellatis tetrandris, bracteis 3 ovatis ciliatis.—*Ruiz et Pav. Fl. Per. v.* 3. *p.* 46. *t.* 275. *Roem. et Sch. Syst. Veget. v.* 7. *p.* 103.—Lonicera corymbosa. *Linn.*—Frolichia violacea. *Spr.*—"Ytiu." *Feuill. Chil. v.* 2. *t.* 45.

Hab. Conception.

2. *L. Cactorum;* aphyllus glaberrimus, caule ramoso, ramis teretibus, bracteis 3 parvis ovatis, floribus subpaniculato-corymbosis tetrandris.

Caules vix digitales, valde et intricatim ramosi; ramis teretibus (ut et tota planta) glaberrimis. *Bracteæ* 3, parvæ, ovatæ, quarum 1 paulo major. *Germen* oblongum calycis limbo brevi obscure tetralobo coronatum. *Corolla* duas pollices longa, tetraquetra, tetrapetala, rubra. *Stylus*, staminaque 4, longitudine petalorum.

Hab. Coquimbo; and, according to Dr. Gillies, upon the stems of *Cactus peruvianus.* We must observe, however, that our valued friend just mentioned, considers it to be an aphyllous state of another species found by him abundantly on trees in Chili, and nearly allied to, if not the same as *L. glaucus* of Ruiz and Pavon. To us, however, it appears an entirely distinct species.

2. VISCUM. *Linn.*

1. *V. chilense;* caule tereti ramoso, ramis ramulisque oppositis compressis articulatis aphyllis, floribus 2 vel 3 ad genicula sessilibus.

Hab. Conception.

Ord. XXXI. UMBELLIFERÆ. *Juss.*

1. BOWLESIA. *Ruiz & Pav.*

1. *B. geraniæfolia;* stellato-pubescens, caule procumbente gracili, foliis longe petiol-

atis reniformibus profunde 5-lobis, lobis ovatis obtusis bi-trifidis sinubus obtusis, pedunculis brevissimis trifloris, fructibus parvis. *Hook.—Schlecht. et Cham. in Linnæa, v.* 1. *p.* 382. *Hook. Bot. Misc. v.* 1. *p.* 324.

Hab. Conception.

2. MULINUM. *Pers.*

1. *M. cuneatum;* foliis cuneatis trifidis segmentis planis cuspidatis, vagina elongata rigida ciliata, umbella breviter pedunculata multiflora.—Fragosa spinosa. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 27?—Azorella spinosa. *Pers.?*

Hab. Valparaiso.—The umbel is certainly not sessile, although the peduncles are not so long as the leaves; on which account, we have quoted the above synonyms with doubt, the plant having been hitherto described with a sessile umbel. We have also received specimens from Mr. Cruckshanks, but on none of them have we been so fortunate as to find any fruit: we have referred it to *Mulinum* on account of its habit.

3. ASTERISCIUM. *Schlecht. et Cham.*

1. *A. chilense;* foliis trilobis inciso-serratis, pedunculis elongatis sparsis, petalis profunde emarginatis apicibus longissimis involutis, fructu basi angustiore, involucri foliolis lanceolatis incisis. *Hook.—Schlecht. et Cham. in Linnæa, v.* 1. *p.* 254. *t.* 5. *f.* 1. (fruct.) *Hook. Bot. Misc. v.* 1. *p.* 332. *t.* 68. a.—Anisillo, vulgo *Mouchu. Feuill. Chil. v.* 3. *t.* 2.

Hab. Conception.

4. SANICULA. *Linn.*

1. *S. liberta;* foliis 5-partitis partitionibus cuneatis trilobis inciso-serratis serraturis setoso-cuspidatis, floribus masculis paucis pedicellatis, pedicellis capillaribus fructus longitudine. *Schlecht. et Cham. in Linnæa, v.* 1. *p.* 253.

Hab. Conception.—The above authors in the Linnæa have pointed out the following characters to distinguish these, the allied species, from the present:—1. *S. canadensis.* Linn.; pedicellis brevibus crassis fructu triplo brevioribus.—2. *S. canadensis.* Spr.—*S. marylandica.* Willd. En.—Jacq. Coll. 2. p. 239. Ic. Rar. t. 348; floribus masculis numerosis longius pedicellatis.—3. *S. marylandica.* Spr.—Lam. Ill. t. 191, f. 2; floribus masculis paucis subsessilibus.—The *S. marylandica* of Linnæus is involved in much obscurity.

5. PETROSELINUM. *Hoffm.*

1. *P. sativum. Hoffm.*—Apium Petroselinum. *Linn.*

Hab. Conception.

6. HELOSCIADIUM. *Koch.*

1. *H. leteriflorum. Koch in Nov. Act. Acad. v.* 12. *p.* 126.—Sison Ammi. *Linn.*

Hab. Conception. Probably introduced.—Dr. Gillies found this also at Buenos Ayres.

7. OSMORHIZA. *Raf.*

1. *O. chilense;* hirsutum, foliis decompositis, foliolis pinnatifido-incisis, stylis brevissimis divergenti-divaricatis.

Caulis erectus, piloso-hirsutus. *Folia* bipinnata, pinnis cuneato-ovatis, pinnatifidis, laciniis subdivisis, acutis. *Pedunculus* folio duplo longior, hirsutus. *Umbella* radiis 4, glabris, 3–4-uncias longis, umbellula 6–7-flora, pedicellis glabris fructum æquantibus, 8 lineas longis. *Involucra* involucellaque nulla. *Flores* nonnulli masculi, abortientes. *Fructus* vix maturus linearis, basi hirsutus, attenuatus.

Hab. Conception.—This belongs to the *Uraspermum* of Nuttall, or *Osmorhiza,* Raf. We are not aware of any species of the genus having been hitherto observed in Chili.

Ord. XXXII. RUBIACEÆ. *Juss.*

1. RUBIA. *Linn.*

1. *R. Relbun;* tota scabra, caule procumbente tetragono, foliis 4-nis obovato-ellipticis mucronatis nervo marginibusque pilosis, pedunculis axillaribus 1-floris solitariis, floribus bracteis quatuor involucratis.—*Schlecht. et. Cham. in Linnæa, v.* 3. *p.* 229.—R. chilensis. *Willd. Sp. v.* 1. *p.* 604. (excl. syn. *Molin.*)—"Relbun." *Feuill. Chil. v.* 3. *t.* 45.

Hab. Conception.—The berries are globose, of a red colour. Schlechtendal and Chamisso, after an examination of Willdenow's plant, consider it the same as theirs; but they pronounce *R. chilensis* of Molina to be distinct, having rounded stems. After all, however, the difference may exist only in Molina's incorrect description, as he must surely have been acquainted with the *Relbun,* which is found in different parts of Chili, as well as Brazil.

2. GALIUM. *Linn.*

1. *G. cotinoides;* caule diffuso ramoso retrorsum scabro, foliis 4-nis lanceolatis acutis margine nervoque retrorsum scabris, cymis paucifloris terminalibus, fructibus minutim tuberculatis.—*Schlecht. et Cham. in Linnæa, v.* 1. *p.* 227.

Hab. Conception.—A species closely allied to *G. palustre, Witheringii,* and *uliginosum,* having the same habit, but differing by the above characters.

2. *G. Tarmense;* caule prostrato glabro tereti 4-sulcato ramoso, foliis 4-nis lineari-oblongis mucronatis glabris nitentibus margine revoluto internodio triplo brevioribus, pedunculo communi axillari foliis longioribus, floribus cymosis.—*Spr. Syst. Veget. v.* 1. *p.* 387?—G. mucronatum. *Ruiz et Pav. Fl. Per. v.* 1. *p.* 60?—G. apiculatum. *Rœm. et Sch.?*

Hab. Conception.—The description given in the Flora Peruviana is too incomplete to permit us to say with certainty that our species is identical; and the other synonyms, again, depend on it. Nor are the specimens in the collection in a perfect state; their flowers are not even developed, and we are quite ignorant of the appearance of the fruit.

3. *G. Aparine. Linn.*

Hab. Conception. Probably introduced.

Ord. XXXIII. VALERIANEÆ. *De Cand.*

1. VALERIANA. *Tourn.*

1. *V. crispa;* foliis carnosis superioribus pinnatifido-laciniatis segmentis crispis acutissime dentatis, panicula fructifera subcoarctata, acheniis subcordato-ovatis plano-convexis late marginatis antice linea media longitudinali elevata dorso tricostatis, pappo plumoso basi membrana unito.—*Ruiz et Pav. Fl. Per. v.* 1. *p.* 41?

Hab. Conception.—We have no means of ascertaining if this be the species of the Flora Peruviana, no figure being there given of it. Schlechtendal and Chamisso, in the Linnæa, say that their specimens were

collected in fruit, but they have omitted to give a description. If ours prove distinct, it may bear the name of *V. pterocarpa.*

2. *V. hyalinorhiza;* herbacea pubescens, foliis radicalibus subrotundo-spathulatis crenatis caulinis lyrato-pinnatifidis, panicula fructifera anguste elongata, acheniis oblongo-ovatis hinc longitudinaliter sulcatis dorso tricostatis pilis longis patentibus tectis pappo plumoso coronatis.—*Ruiz et Pav. Fl. Per. v.* 1. *p.* 41. *t.* 67. *f. b.* (status junior.)

Hab. Conception.—This appears to be only known to previous authors in a young state, its fruit being always described as crowned with minute teeth, which, eventually, as in the other species, change into a feathery pappus. The *V. hyalinorhiza,* Humb. and Kunth, v. 3. p. 331, "acheniis glabris, foliis glabriusculis," is surely different from the Chilian plant.

2. FEDIA. *Gært.*

1. *F. laxa;* herbacea glabra, foliis radicalibus cordato-ovatis obtuse dentatis caulinis lyrato-pinnatifidis lobo terminali maximo, panicula laxa divaricata, pedicellis ultimis brevibus congestis, acheniis ovatis hinc excavatis dorso tricostatis annulo crenulato coronatis.

Hab. Conception.—This approaches most in habit to *Valeriana paniculata* of the Flora Peruviana, but that is pubescent, and has a pappose fruit. The achenium of our plant has, in addition to the three strong dorsal ribs, a lateral one on each side, though not so elevated as the others.

Ord. XXXIV. COMPOSITÆ. *Juss.*

Subord. I. Cichoraceæ. *Juss.*

1. SONCHUS. *Linn.*

1. *S. oleraceus. Linn.*

Hab. Conception.

2. HYPOCHÆRIS. *Linn.*

1. *H. apargioides;* foliis radicalibus lanceolatis basi attenuatis sinuato-dentatis nunc pinnatifidis hirsutulis, scapis elongatis ramosis, bracteis linearibus subintegerrimis, ramis unifloris, involucro densissime ferrugineo-tomentoso, pappo sessili.

Hab. Conception.—Plant from one and a half to two feet high. Leaves from four to six inches long.

Subord. II. Labiatifloræ. *DC.*

3. PROUSTIA. *Lag. DC.*

1. *P. ilicifolia;* foliis ovalibus rigidis coriaceis nitidis reticulatim venosis marginibus dentato-spinosis, panicula terminali, involucri foliolis externis minutis ovatis subcoriaceis interioribus sensim majoribus membranaceis, pappo scabro apicem versus subplumoso.

Hab. Coquimbo.—Undoubtedly a congener of *P. pyrifolia,* which we have received from Chamisso, gathered at Conception; and from Dr. Gillies, from the neighbourhood of Concon, who states it to be the "*Voqui,*" or "*Boqui,*" of Chili. This must not, however, be confounded with the *Boigue* of Chili, which, Mr. Cruckshanks informs us, is the *Drymis chilensis,* (Feuill. Chil. v. 3. t. 6.)

4. LEUCÆRIA. *Lag. DC.*

1. *L.? senecioides;* caule erecto ramoso, foliis pinnatifidis laciniis inciso-angulatis sub-

tus incano-tomentosis, floribus laxe paniculatis, involucri squamis scariosis obtusissimis inferioribus albo-tomentosis.

Caulis subpedalis, ramosus, arachnoideo-tomentosus. *Folia* digitalia, basi semiamplexicaulia, profunde pinnatifida, segmentis angulato-laciniatis, laciniis superioribus elongatis, attenuatis. *Involucrum* hemisphæricum, imbricatum, squamis oblongis, exterioribus obtusis, albo-lanuginosis; interioribus acutis, vel etiam acuminatis, scariosis, margine subciliatis. *Flosculi* purpurei, bilabiati, exteriores radiati, labio exteriore oblongo patente, interiore 5-plo minore, recurvato, bipartito, laciniis linearibus; interiores labio exteriore parvo, lineari, erectiusculo, interiore duplo minore, recurvato, bipartito. *Receptaculum* punctatum, nudum. *Achenia* (vix matura) oblonga, basi attenuata, siccitate rugosa. *Pappus* subplumosus, sessilis, albus.

Hab. Conception.—We believe that this belongs to the *Leucæria* of Lagasca, but we do not find any trace of paleæ among the radiate florets.

5. CHÆTANTHERA. *Ruiz & Pav. DC.*

1. *C. chilensis;* foliis lineari-lanceolatis rariter serratis, inferioribus sericeis.—*De Cand. in Ann. du Mus. v.* 19. *p.* 70. *t.* 3?

Hab. Valparaiso.—In our plant the root is annual, and from the crown of it issue several short, usually one-flowered stems. The leaves are narrowly spathulate, obtuse, and very sharply toothed. The figure given by De Candolle bears hardly any resemblance to our specimens, and we should not have had the least idea of its being the same, did we not possess a specimen from Chamisso, which is consequently the same as that described by Lessing in the Linnæa, named as above, and identical with our own. Mr. Cruckshanks, Mr. Macrae, Mr. Bridges, and Dr. Gillies have also gathered it at Valparaiso.

6. BARNADESIA. *Linn.*

1. *B.? ulicina;* foliis subulatis rigidissimis pungentibus, spinis nullis, involucri foliolis subulatis rigidis scariosis (flavis), exterioribus recurvis ciliatis interioribus erectis extus sericeis, pappo plumoso.

Hab. Coquimbo.—The only specimen we have ever seen is too imperfect for us even to ascertain the genus with any certainty. The habit is very remarkable. The plant shrubby, with glossy, yet slightly tomentose branches; leaves numerous, about three-fourths of an inch long, shining, with an obscure nerve at the back, grooved within, very rigid, and tipped with a yellow pungent point, bearing always in their axils a cluster of young leaves, which are slightly downy. The receptacle is dotted and naked, and the general aspect of the flower not unlike that of *Carlina vulgaris*.

7. TRIPTILION. *Ruiz & Pav. DC.*

1. *T. spinosum;* herbaceum, foliis radicalibus pinnatifidis, caulinis sessilibus inciso-dentatis spinosis, caule superne paniculato-corymboso. *Spr.—Ruiz et Pav.*

Hab. Valparaiso.

SUBORD. III. CORYMBIFERÆ. *Juss.*

8. EUPATORIUM. *Linn.*

1. *E. reticulatum;* fruticosum, ramis angulatis, foliis oblongo-ovatis subattenuatis petiolatis crenato-dentatis subcoriaceis subtus reticulatis junioribus præcipue viscosis, panicula corymboso-capitata, involucri sub-13-flori foliolis serie duplici glanduloso-pilosis.

Hab. Valparaiso.—This seems to approach very near to *E. viscosum*, Kunth, but that is described with a diffuse panicle, while in our plant the flowers are in a compact head.

9. CACALIA. *Linn.*

1. *C.? denticulata;* fruticosa pubescenti-lanosa, caule angulato, foliis subcoriaceis

ovalibus argute denticulatis, basi in petiolum latum attenuatis, paniculis terminalibus foliosis, floribus parvis.

Hab. Conception.—The florets in our specimen are unexpanded, but there is so excellent a character in the beautiful close denticulation of the foliage, that we are unwilling to pass it over in silence. The leaves are about three inches long, slightly woolly on both sides, paler beneath, where they are finely reticulated, becoming gradually smaller upwards, and passing into linear bracteas among the upper flowers of the panicle. It may possibly be a *Baccharis.*

10. AGERATUM. *Linn.*

1. *A. conyzoides;* herbaceum annuum, caule piloso, foliis ovato-oblongis obtusiusculis crenatis, floribus corymbosis. *Spr.—Linn.*

Hab. Conception.—Different varieties occur throughout all South America.

11. CEPHALOPHORA. *Cav.*

1. *C. glauca. Cav. Ic. v.* 6. *p.* 610. *t.* 599.—Græmia aromatica. *Hook. Exot. Fl. t.* 189.—Santolina tinctoria. *Molina.*—Hymenopappus glaucus. *Spr. Syst. Veget. v.* 3. *p.* 449.—“Poquill.” *Feuill. Chil. v.* 3. *p.* 61. *t.* 45.

Hab. Coquimbo.—In the Exotic Flora it is stated that Feuillée's plant was a second species of *Græmia;* but we are now disposed to unite the whole of the above synonyms. Mr. Cruckshanks finds it abundantly at Valparaiso; and at Quintero, about ten leagues farther northward, it was observed by Mrs. Graham, covering whole tracts of country. Mr. Cruckshanks mentions that he never understood that it was applied to dyeing, but that the natives make a decoction of it, which they use instead of chamomile.

12. BIDENS. *Linn.*

1. *B. bipinnata;* foliis bipinnatis glabris, foliolis lanceolatis inciso-pinnatifidis, floribus corymbosis discoideis. *Spr.—Linn.—Feuill. Chil. v.* 2. *t.* 33.

Hab. Valparaiso.—We have it also from Dr. Gillies. There is no difference of any importance, that we can perceive, between the North American specimens and those in this collection: it seems to be very generally diffused over South America.

13. BACCHARIS. *Linn.*

1. *B. rosmarinifolia;* caule fruticoso dense folioso, foliis linearibus obtusis margine revolutis resinoso-glandulosis, corymbis terminalibus densis paucifloris, involucro cylindrico imbricato.

Hab. Conception.—We possess the same, gathered at Valparaiso by Mr. Bridges, who says that all the species are called *Romero.* It may be *B. linearis,* Pers., but we do not observe any of the leaves to be toothed. Perhaps Persoon's character may be drawn up from more than one species of this difficult genus.

2. *B. mucronata;* caule fruticoso, foliis fasciculatis cuneatis basi attenuatis sessilibus dentato-spinosis rigidis, floribus solitariis ramulos versus apicem caulis foliosos breves terminantibus et ita quasi spicato-racemosis.

Hab. Coquimbo.—The nearest species is *B. uniflora,* Pers., which is described as having lanceolate leaves. Perhaps it is the *B. banksiæfolia* of Bertero in the Bulletin des Sciences Nat. 1830, p. 108, but no description of that has been published.

3. *B. obovata;* suffruticosa glabra foliis obovatis cuneatis superne profunde dentatis

inferne in petiolum perbrevem attenuatis membranaceis, floribus paucis subumbellatis ramos terminantibus, pappo fulvo.

Hab. Conception.—The leaves, though somewhat resembling in shape those of the preceding species, differ widely in their texture: the arrangement of the flowers is also very dissimilar.

4. *B. resinosa;* frutescens valde ramosa, foliis lato-cuneatis superne angulatis brevissime petiolatis coriaceis glabris, floribus terminalibus glomeratis, involucri foliolis pubescentibus, pappo fulvo.—*Humb. et Kunth, Nov. Gen. v.* 4. *p.* 52. *t.* 323.

Hab. Conception.—This, as far as we can judge from the specimens, appears to be a true *Baccharis.* The pappus is tawny: leaves scarcely an inch long, broadly cuneate, truncated at the top, presenting a few angles in the upper half, and remarkably coriaceous. Kunth says that Lamarck's *B. cuneifolia* is nearly allied; Sprengel unites them.

5. *B. glutinosa;* suffruticosa, foliis lanceolatis 3-nerviis inciso-serratis glabris junioribus glutinosis glanduloso-punctatis, involucri foliolis margine laceratis.—*Pers. Syn. v.* 2. *p.* 425?—" Chilca." *Feuill. Chil. v.* 2. *t.* 37.

Hab. Valparaiso. Mr. Bridges has likewise sent it.—Besides these species, we possess from Chili, gathered near the waterfall at the end of Almendral in Valparaiso, another species, which we cannot distinguish from the *B. articulata,* Pers.

14. GNAPHALIUM. *Linn.*

1. *G. coarctatum;* foliis spathulatis adnatis margine undulato-crispis supra viridibus subtus argenteo-tomentosis, caule simplicissimo folioso, floribus glomerato-spicatis, involucro lucido glabro. *Spr.*—*Willd. Sp. v.* 3. *p.* 1886.—G. spicatum. *Lam.*

Hab. Conception.

2. *G. chilense;* foliis utrinque argenteo-lanatis inferioribus spathulatis superioribus linearibus, floribus glomerato-spicatis, involucri foliolis nitidis acuminatis.—*Spr. Syst. Veget. v.* 3. *p.* 480?

Hab. Conception.—We feel almost certain that this must be the plant gathered by Chamisso, and described by Sprengel, but the characters do not altogether accord. It is certainly, however, not the *G. lanuginosum,* Kunth, which has acuminated leaves.

3. *G. citrinum;* caule herbaceo erecto tomentoso, foliis lineari-lanceolatis acutis longe decurrentibus supra velutinis subtus albo-tomentosis, corymbis terminalibus, floribus glomeratis citrinis, involucri squamis oblongis obtusis nitidis.

Hab. Conception.—This appears liable to considerable variation, the upper surface of the leaves being sometimes almost naked, and in other specimens densely velvety. It is about a foot and a half high. It is probably the *Elichrysum,* &c. of Feuill. Chil. v. 3. t. 13, which figure resembles much our plant in the leafy branches of the corymb. We possess another very curious new species, sent from Valparaiso by Mr. Bridges, which may be thus distinguished:—*G. ulophyllum;* annuum, basi decumbente valde ramosum, ubique arachnoideo-lanosum, foliis linearibus acutis decurrentibus undulato-crispatis, corymbis elongatis, floribus glomeratis sordidis, involucri squamis oblongis obtusis nitidis.

15. ERIGERON. *Linn.*

1. *E. spiculosum;* caule herbaceo anguloso pilis albidis hispidulo, foliis lineari-oblongis acutis margine (præcipue) cartilagineo-spinulosis, panicula multiflora, pedunculis pilis albis appressis, involucro subpiloso.

HAB. Valparaiso.—Mr. Bridges has likewise transmitted this plant, whose nearest affinity appears to be with *E. linifolium,* Willd.

16. SENECIO. *Linn.*

1. *S. bipinnatifidus;* frutescens glanduloso-pilosus viscidus, ramis angulatis, foliis semiamplexicaulibus bipinnatifidis, laciniis linearibus obtusis basi subauriculatis, corymbo paucifloro, involucro tomentoso, radio patente.

HAB. Coquimbo.

2. *S. glabratus;* frutescens glaber, ramis (ultimis) striatis, foliis semiamplexicaulibus bipinnatifidis, laciniis linearibus obtusis, corymbo paucifloro, involucro glaberrimo, radio patente.

HAB. Conception.—This may be perhaps a denuded state of the last, but it is perfectly glabrous in all its parts: we have only seen one, and that an indifferent specimen.

3. *S. arnicoides;* caule herbaceo, foliis radicalibus lanceolatis angulato-dentatis obscure trinerviis subpubescentibus longe petiolatis, scapo foliis linearibus dentatis bracteiformibus, triplo longiore, corymbo subtrifloro, radio patente.

HAB. Conception.—Nearly allied to *S. pauciflorus,* Kunth.

4. *S. nigrescens;* caule herbaceo adscendente ramoso, foliis ovalibus amplexicaulibus inciso-lobatis glabris, panicula subcorymbosa, involucro glabro basi paucibracteato, radio patente, acheniis striatis pubescentibus.—" Nillgue." *Feuill. Chil. v.* 2. *t.* 44.

HAB. Conception.—Although we cannot find this described in any systematic work, we cannot question for a moment that it is the plant of Feuillée, of which he says that it is much used for intermittent fevers.

17. GALINSOGEA. *Ruiz & Pav.*

1. *G. parviflora;* herbacea ramosa, foliis petiolatis ovatis triplinerviis serratis pubescentibus, pedunculis axillaribus paucifloris, radio 5-floro abbreviato. *Spr.—Willd. Sp. Pl. v.* 3. *p.* 2228.

HAB. Coquimbo.

2. *G.? resinosa;* caule fruticoso angulato ramoso, ramulis foliisque angustissime linearibus resinoso-glandulosis, floribus paniculato-corymbosis, involucro imbricato inæquali viscoso, receptaculo nudo.

HAB. Coquimbo.—We possess it also from the Viña de la Mar, near Valparaiso, sent by Mr. Bridges, who says that it is by no means a general plant. We refer it, with some hesitation, to *Galinsogea,* as the receptacle is not paleaceous. From *Hymenopappus* it differs by the presence of a ray, and by its unequal involucrum.

18. HELIANTHUS. *Linn.*

1. *H. glutinosus;* glutinosus, caule herbaceo erecto ramoso angulato, foliis alternis brevissime petiolatis ovato-lanceolatis penninerviis reticulatis inferioribus repando-dentatis

superioribus integerrimis, corymbis multifloris foliosis, involucri foliolis lanceolatis squarrosis.—Tithonia glutinosa. *Collie, MSS.*

Flosculi exteriores radiati, neutri; interiores tubulosi, fertiles. *Germen* villosum, squamis 2 lanceolatis membranaceis ciliatis coronatum. *Receptaculum* paleaceum, paleis obtusis, apice ad marginem serratis.

HAB. Valparaiso.—This has considerably the habit of a *Grindelia*, and Mr. Bridges informs us that it is very abundant on the hills near Valparaiso, growing from four to six feet high. It is called by the natives *Maravilla*, and a resin which it yields is employed by them for incense in their churches. He has furnished us with fine specimens, both of the plant and its resin.

SUBORD. IV. CYNAROCEPHALÆ. *Juss.*

19. CENTAUREA. *Linn.*

1. *C. chilensis;* foliis pinnatifidis, segmentis integerrimis vel pinnatifido-laciniatis acutis glabris, involucro globoso basi subtriphyllo, squamis superioribus apice scariosis pectinatis.—*Bertero in Bullet. des Sc. Nat.* 1830. *p.* 109? (absque descriptione.)

HAB. Conception.—The marginal florets are neuter, infundibuliform, and radiate; those of the disc hermaphrodite, tubulous, and 5-fid. It undoubtedly belongs to Mr. Don's groupe, *Plectocephalus*, which we consider a mere section of *Centaurea*. We have the same plant from Mr. Macrae, gathered on the Cordilleras of Chili, and another variety sent from Valparaiso by Mr. Bridges, having the segments of the leaves always simple and broader, downy on the underside as on the stem: this might be thought a species, but we have an intermediate specimen from Mr. Cruckshanks.

ORD. XXXV. LOBELIACEÆ. *Juss.*

1. LOBELIA. *Linn.*

1. *L. polyphylla;* suffruticosa, caule simplici, foliis oblongo-lanceolatis superioribus multo minoribus bracteiformibus omnibus confertis argute serratis glaberrimis, floribus axillaribus pedicellatis, pedicellis pubescentibus folio brevioribus, calyce hemisphærico pubescente, dentibus subulatis integerrimis, corolla pubescente pedunculum æquante.

HAB. Valparaiso.—The two lower anthers are bearded at their extremity, the others glabrous. Flowers red. The inflorescence may almost be called a terminal, densely leafy raceme, in which the flower with its pedicel is only the length of the floral leaf. From Mr. Collie's notes we learn that this plant, when cut, yields a milky acrid juice.

ORD. XXXVI. ERICEÆ. *Juss.*

1. ARBUTUS. *Tourn.*

1. *A. furiens;* caule subsimplici pubescente, foliis ovalibus breve petiolatis denticulatis coriaceis margine revolutis supra nitentibus utrinque glandulosis, glandulis pilo terminatis, racemis brevibus axillaribus, rachi pedicellisque pubescentibus squamulosis, calyce glabro, corolla extus glabra intus pilosa.—Qued-qued. *Feuill. v.* 3. *p.* 56. *t.* 43.

HAB. Conception.—A small low-growing shrub, with few and small leaves at its base, which are almost orbicular. The fruit of this is described by Feuillée as being a reddish-brown berry, which is dangerous when eaten, causing delirium; whence the Indian name, which signifies *madness*.

2. *A. punctata;* ramosissima, ramulis pubescentibus, foliis subsessilibus ovato-lanceo-

latis denticulatis coriaceis margine revolutis glandulis piliferis sparsis, racemis axillaribus pubescentibus squamulosis, calyce glabro, corolla extus glabra intus pilosa.

Hab. Conception.—Apparently a large shrub, and possibly the *A. phyllireæfolia* of Persoon, but the characters of that species are very vague, and its flowers appear to be axillary and not racemed.

Subcl. III. COROLLIFLORÆ.

Ord. XXXVII. OLEINEÆ. *Hoffmansegg et Link.*

1. OLEA. *Tourn.*

1. *O. europæa. Linn.*

Hab. Conception. Probably a cultivated plant.

Ord. XXXVIII. GENTIANEÆ. *Juss.*

1. EXACUM. *Linn.*

1. *E. filiforme? Sm.*—Gentiana filiformis. *Linn.*

Hab. Conception.—Two small specimens of this, scarcely more than an inch high, each with a single small, terminal and pedunculated flower, will not enable us to satisfy ourselves whether the species be distinct or not from the Europæan *E. filiforme.* It is probably the *E. chilense* of Bertero in Bull. des Sc. Nat. 1830, p. 111, but of which no description is given.—Belonging to the *Gentianeæ* is the "*Cachen-Laguen*" of Chili, the *Chironia chilensis*, Willd. (*Cachen*, Feuill. Chil. v. 2. t. 35), but which is a true *Erythræa.* The calyx, corolla, and stamens, in our specimens from Mr. Menzies, and from Gouan's herbarium, follow the quinary arrangement. The nearest to it, as Kunth remarks, is his *E. quitensis*, only differing by the parts being in fours; but we do not consider that a distinct species. Though it be much used medicinally in Peru, Humboldt never saw it wild there; but it was cultivated in the plains of Chillo, the inhabitants of which may have originally brought it with them from Chili, where it is undoubtedly a native. The circumstance of only four stamens, instead of five, being observed in the Peruvian specimens, is not, we conceive, sufficiently constant for a specific definition: we cannot, therefore, agree with Sprengel, who has, on that account, placed it in *Exacum*, without attending to other more important characters. The Peruvian name, too, is a corruption of the Chilian one, which ought to be written as above, the word "*Laguen*" meaning merely a plant; while the particular name of the present one, in the Indian language, is "*Cachen.*"

Ord. XXXIX. APOCYNEÆ. *Juss.*

1. ECHITES. *Jacq.*

1. *E. pubescens;* caule volubili ferrugineo-pubescente, foliis molliter pubescentibus ovatis acuminulatis breviter petiolatis, pedunculis axillaribus subsolitariis dense bracteatis, staminibus inclusis.

Caules longissimi, volubiles, ramosi. *Folia* bi-ad quadriuncialia, ovata, basi subcordata, apice acuminulata, supra intense viridia subtus pallida. *Flores* ex axillis foliorum supremorum, subsolitarii. *Pedunculi* florem æquantes, bracteis parvis imbricatis ovatis pubescentibus tecti. *Calyx* profunde 5-partitus; laciniis lanceolatis, erectis, pubescentibus. *Corolla* tubo calycis longitudine, limbo quinquefido, lobis ovatis. *Stamina* inclusa. *Antheræ* lineares, in tubum sessiles, basi biaristatæ. *Germen* ovato-globosum, didymum. *Stylus* filiformis.

Hab. Conception.

ORD. XL. ASCLEPIADEÆ. *Juss.*

1. CYNANCHUM. *Linn.*

1. *C. birostratum;* volubilis, foliis anguste cordato-sagittatis lobis oblongis obtusis subcoriaceis glabris, umbellis multifloris, pedicellis calycibusque pubescentibus, corollæ tubo urceolato laciniis lanceolatis extus pubescentibus, coronæ stamineæ simplicis laciniis 5 bifidis, stigmate longe rostrato profunde bifido.

HAB. Conception. (It has been sent us from Valparaiso also, by Mr. Cruckshanks and Mr. Bridges.)—This is a long twining plant, with leaves not very unlike those of *C. acutum*, but generally much narrower, and with considerably larger flowers. The simple staminal crown has its segments membranous, white, and bifid: Anthers terminated by a membrane. The stigma gradually tapers upward into a long filiform bifid beak, as long as the corolla, resembling a bifid style.

ORD. XLI. CONVOLVULACEÆ. *Juss.*

1. CONVOLVULUS. *Tourn.*

1. *C.? filifolius;* fruticosus ramosissimus diffusus, foliis angustissime linearibus teretibus, floribus axillaribus solitariis breviter pedunculatis, corolla campanulata.

HAB. Coquimbo.—We regret that for want of perfect materials we can give but an unsatisfactory account of this interesting plant. Our best specimens are from Mr. Cruckshanks, and judging by the flower (for they have no fruit) they appear to belong to the present genus. But the plant is quite shrubby and woody, much branched, and somewhat clammy. The leaves are about half an inch long, and, from their shrivelled appearance, probably fleshy when fresh. Peduncle a little longer than the leaves. Calyx 5-fid (not 5-partite), with linear teeth on the segments: Corolla plicate, widely campanulate, blue, about an inch broad.

2. CALYSTEGIA. *Br.*

1. *C. reniformis;* foliis reniformibus subrepandis crassiusculis, pedunculis teretiusculis, bracteis cordatis longitudine calycis, caule prostrato.—*Br. Prodr. v.* 1. *p.* 484.

HAB. Conception.—Probably, as Mr. Brown suggests, too nearly allied to *C. Soldanella*, Br. The *Soldanella*, &c. Feuill. Chil. v. 3. t. 44, we might have taken for a diminutive representation of this plant, had it not already been referred to the genus *Tula*, and supposed to belong to the *Rubiaceæ*.

3. CUSCUTA. *Linn.*

1. *C. chilensis;* pentandra digyna, floribus 5-fidis, calyce ter breviore corolla segmentis oblatis rotundatis, corolla intus infra medium fimbriato-squamata, laciniis ovatis tubo ter brevioribus recurvis, antheris sessilibus, stylo altero breviore, stigmatibus pileato-capitatis.—*Ker in Bot. Reg. t.* 603.

HAB. Conception.—First found by Mr. Menzies at Valparaiso; since, also, by Dr. Gillies, on the Chilian Andes.

ORD. XLII. SOLANACEÆ. *Juss.*

1. FABIANA. *Ruiz & Pav.*

1. *F. lanuginosa;* ramulis tomento albo lanuginosis, foliis fasciculatis linearibus obtusissimis carnosis patentibus, calyce lanoso.

Caules erecti, fruticosi, valde ramosi; ramulis filiformibus, flexuosis, lana alba laxa ubique obsitis, foliosis. *Folia* fasciculata, patentia, lineam sesquilineam longa, linearia, teretia, obtusissima, carnosa, sublanosa. *Flores* axillares, solitarii. *Pedunculus* axillaris, vix foliorum longitudine. *Calyx* tubulosus, quinquefidus, laxe lanosus, lineis 5 elevatis notatus, laciniis linearibus obtusis inæqualibus. *Corolla* infundibuliformis, glaber, limbo 5-fido, segmentis oblongo-ovatis, reflexis. *Stylus* corolla brevior. *Stigma* oblongo-capitatum.

Hab. Coquimbo.—The young shoots of this plant are clothed with a lax but abundant wool, and its fasciculated, terete, and fleshy leaves have much the appearance of some species of *Portulaca*. The fruit we do not possess. The flowers are truly those of a *Fabiana*, of which genus only two species had yet been described, *F. imbricata* of Ruiz and Pavon, and *F. thymifolia*, St. Hil. Pl. Rem. du Brésil, which latter, indeed, is most nearly allied to the present, differing, however, in the absence of the woolly covering to its branches, and in the scattered leaves. A fourth species has, however, been discovered in Chili by Mr. Cruckshanks, and, we believe, also by Dr. Gillies, which may be thus named and characterised:—*F. viscosa;* pubescenti-viscosa, foliis sparsis anguste linearibus patentibus obtusis dorso canaliculatis, pedunculis terminalibus fructiferis erectis.—Hab. Near Barasca in Chili, where it is called "*Pichanilla.*" *Mr. Cruckshanks.*—This also resembles the *F. thymifolia* of St. Hilaire, but that has the peduncles mostly axillary, and, when in fruit, reflexed, and the corolla has the tube much broader at the base. *F. viscosa* has been cultivated at the Edinburgh and Glasgow Botanic Gardens, from seeds introduced by Mr. Cruckshanks. We possess the fruit, which is an oblong capsule, in part surrounded by the persistent calyx, 2-valved, the valves with their margins introflexed, so as to form 2 cells, and bifid at the extremity. Receptacle of the seeds central, becoming free from the dissepiments, and split through the middle, entire at the summit.

2. CESTRUM. *Linn.*

1. *C. Parqui;* foliis lanceolatis utrinque attenuatis subundulatis sparsis, pedunculis terminalibus corymbosis.—*L'Herit. St. v.* 1. *t.* 36.—Parqui. *Feuill. Chil. v.* 3. *t.* 32.

Hab. Valparaiso.

3. BRUGMANSIA. *Pers.*

1. *B. candida. Pers. Syn. v.* 1. *p.* 206.—Datura arborea. *Willd.*—*Feuill. Chil. v.* 2. *t.* 46.

Hab. Conception; where it is much cultivated.

4. NICANDRA. *Adans.*

1. *N. physalodes. Gærtn.*—*Feuill. Chil. v.* 2. *t.* 16.

Hab. Coquimbo.

5. SOLANUM. *Linn.*

1. *S. chenopodoides;* inerme, caule subherbaceo, foliis ovato-oblongis repando-sinuatis subhirsutis junioribus tomentosis.—*Lam. Illustr. n.* 2340. *Roem. et Sch. v.* 4. *p.* 591. *Feuill. Chil. v.* 2. *t.* 14.

Hab. Valparaiso and Conception.—Dr. Gillies finds it on the other side of the Andes, near Mendoza.

2. *S. pinnatum;* inerme, caule herbaceo sulcato, foliis impari-pinnatisectis segmentis decurrentibus, floribus corymbosis terminalibus.—*Cav. Ic. v.* 5. *p.* 23. *t.* 439. *f.* 1.

Hab. Coquimbo.

3. *S. crispum;* inerme fruticosum, foliis ovatis subcordatisque undulato-crispis subacuminatis integerrimis, floribus corymbosis terminalibus, calycibus 5-dentatis, staminibus æqualibus.—*Ruiz et Pav. Fl. Per. v.* 2. *p.* 31. *t.* 158. *f. a.*

Hab. Conception.—In our specimens the corolla is slightly puberulous, which is not noticed in Ruiz and Pavon.

5. NOLANA. *Linn.*

1. *N. paradoxa;* caulibus prostratis hirsutis, calycibus sæpius triangularibus, corollis infundibuliformi-campanulatis. *Sims.—Lindl. in Bot. Reg. t.* 865. *Sims in Bot. Mag. t.* 2604.

Hab. Conception: on the sea shore.

Ord. XLIII. POLEMONIACEÆ. *Juss.*

1. COLLOMIA. *Nutt.*

1. *C. Cavanillesii;* leviter pubescenti-pilosa, caule erecto subsimplici, foliis erecto-patentibus anguste-lanceolatis integerrimis, floribus capitatis, involucro nullo, calyce glanduloso.—Phlox linearis. *Cav. Ic. v.* 6. *p.* 17. *t.* 527. (non Collomia linearis. *Nutt.*)

Hab. Conception.—This is certainly nearly allied to the North American *C. linearis* of Nuttall, yet truly distinct. The plant is less branched, its leaves narrower, the upper ones not forming an involucre around the flowers, and the flowers are as large as those of *Collomia grandiflora.*

Ord. XLIV. BORAGINEÆ. *Juss.*

1. CYNOGLOSSUM. *Linn.*

1. *C. decurrens;* caule angulato-alato, foliis lato-lanceolatis acutis decurrentibus integerrimis, racemis terminalibus foliosis elongatis, fructibus glochidiatis.—*Ruiz et Pav. Fl. Per. v.* 2. *p.* 6. *Lehm. Asper. p.* 143. *Feuill. Chil. v.* 2. *t.* 49.

Hab. Conception.—This plant grows two or three feet high. It has been found by Mr. Macrae in the same country.

2. *C. paniculatum;* adpresse pilosum, foliis lanceolatis acutissimis inferne in petiolum sensim attenuatis ciliatis nitidulis subtus cano-sericeis, racemis terminalibus paniculatis laxis paucibracteatis, pedicellis fructiferis longissimis gracilibus patenti-deflexis, fructibus glochidiatis.

Hab. Conception.—Mr. Macrae has sent specimens to the Horticultural Society, which he gathered at Murillo Bay in Peru. The base of the plant is suffrutescent; the stems are from one and a half to two feet high. The leaves 3-5 inches long, their margins slightly revolute. By the above peculiarites, and the lax terminal panicle, with the exceedingly long slender fruit-stalks, this species is distinguished from every other with which we are acquainted.

2. LITHOSPERMUM. *Linn.*

1. *D. myosotoides;* seminibus rugosis, corollis calycem æquantibus, foliis lineari-lanceolatis, floribus lateralibus solitariis. *Lehm. Asper. p.* 319.—L. tinctorium. *Ruiz et Pav. Fl. Per. v.* 2. *t.* 114. *f.* 6.—L. tingens. *Roem. et Sch.*

Hab. Conception.

3. LYCOPSIS. *Linn.* (non *Lehm.*)

1. *L. arvensis. Linn.*

Hab. Valparaiso. Introduced.

4. MYOSOTIS. *Linn.*

1. *M. fulva;* caule erecto subsimplice foliisque remotis lato-linearibus obtusiusculis hispidis, racemis spiciformibus conjugatis ebracteatis, calyce densissime piloso profunde 5-partito, nucibus 2 (alteris abortientibus.)

Hab. Conception.—(Near Valparaiso. *Mr. Bridges.*)—Plant about a foot high. Stem slightly branched upwards, arising from an annual, fusiform, scarcely fibrous root. Racemes terminal, forked, without bracteas. Pedicels very short, and, as well as the calyx, clothed with dense fulvous, erect hairs. Those of the leaves are paler coloured, and arise from a distinct white tubercle. The corolla is white (Bridges); the achenia two, (perhaps by abortion,) ovate, erect, wrinkled.

5. HELIOTROPIUM. *Linn.*

1. *H. stenophyllum;* fruticosum densissime foliosum, foliis fasciculatis angustissime linearibus carnosis obtusis margine revolutis pube brevissima scabris, spicis conjugatis ebracteatis folia superiora vix superantibus.

Hab. Coquimbo.—This is perhaps most nearly allied to *H. curassavicum,* (which we possess from the same country, through the kindness of Mr. Cruckshanks,) but that has plane, and somewhat spathulate, glaucous leaves, and is quite glabrous.

Ord. XLV. CORDIACEÆ. *Br.*

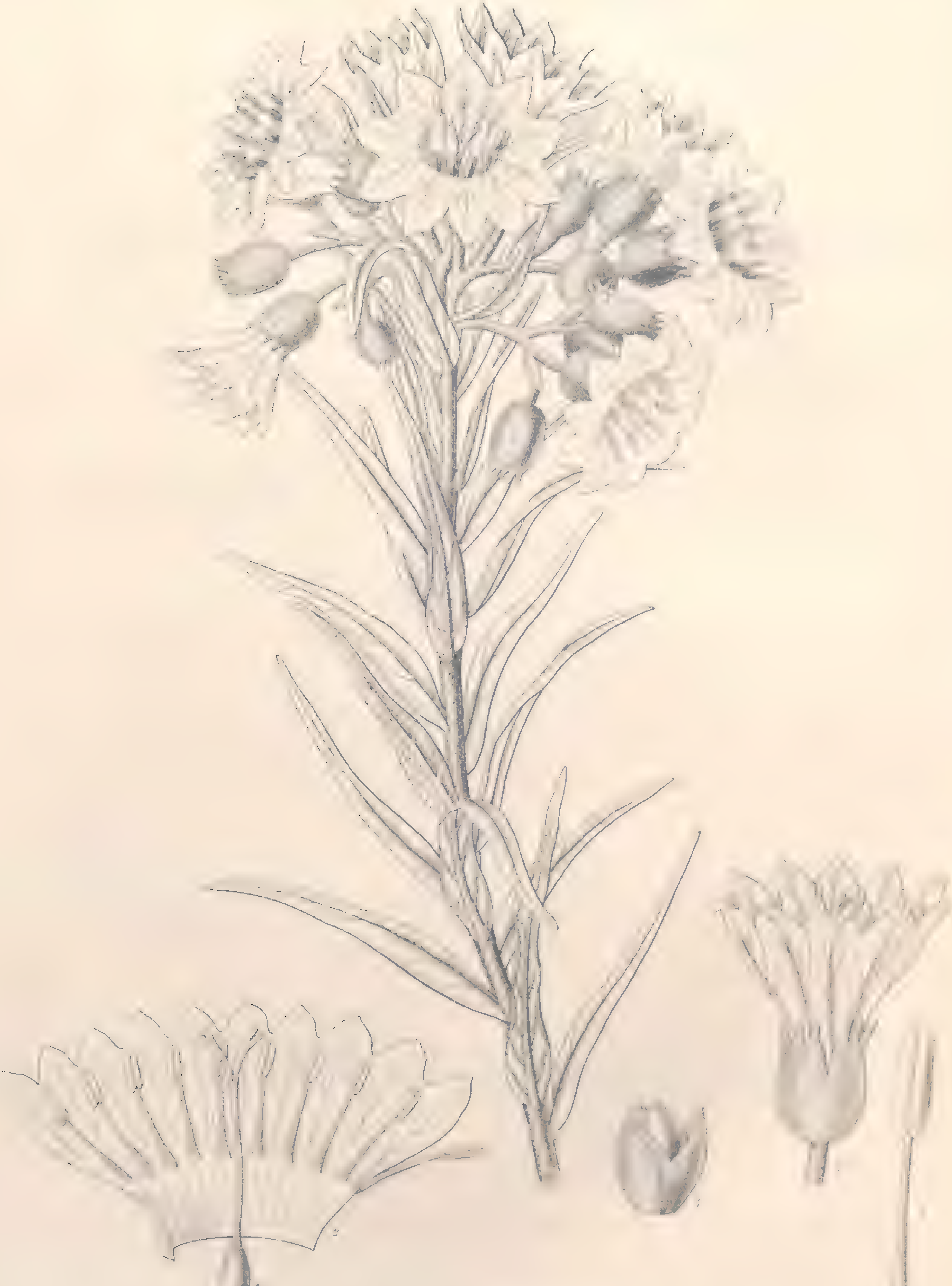
1. CORDIA. *Linn.*

1. *C. decandra;* foliis lineari-lanceolatis attenuatis scabris sessilibus margine revolutis subtus pubescenti-canis, floribus in corymbum foliosum terminalibus, calycibus 10-dentatis nigro-pubescentibus, corolla 10-lobata, staminibus 10. (Tab. X.)

Frutex 8–10-pedalis, ramosus, superne pube brevissima rigida asper. *Folia* alterna, coriacea, 2–3 uncias longa, erecto-patentia, lanceolata, sensim attenuata, supra, tactu, scaberrima, impresso-nervosa, margine revoluto, subtus pubescenti-cana, nervis prominentibus. *Flores* magni, pulcherrimi, albi, fragrantes, paniculati, panicula dense corymbosa, foliosa, terminali. *Calyx* ovatus, subinflatus, extus dense nigro-intus albo-pubescens, decem-striatus, apice subtruncatus, 10-dentatus, dentibus parvis, angustis. *Corolla* ampla, infundibuliformi-campanulata, venosa, 10-fida, limbo patente: *Stamina* paulo intra tubum inserta, inclusa. *Filamenta* basi pilosa: *Antheræ* oblongæ: *Germen* ovatum. *Stylus* longitudine floris, bifidus, stigmatibus bifidis. *Capsula* magnitudine *Nucis Avellanæ,* calyce persistente tecta.

Hab. Coquimbo.—It is remarkable, that notwithstanding we have received specimens of it from Chili, gathered by Mr. Cruckshanks and Mr. Macrae, and that so handsome and remarkable a plant could not fail to attract the attention of every Naturalist who has visited that country, yet we do not find it to be described in any systematic work to which we have access. That it is a *Cordia,* there can be scarcely a question; since it agrees in every essential particular with the characters of that genus, differing only in the duplication of the parts of the flower. Mr. Cruckshanks informs us that the wood, which is very compact, is extensively employed in the production of charcoal, (whence the vernacular name, *Carbon,*) and likewise for fuel in smelting copper (as the dead and withered stems of the *Cactus* are for refining metal) in the mining districts of Coquimbo: so that in many places the country is almost cleared of these plants. "*Carbon* grows in the district of Guasco, Coquimbo, and Cuzcuz. It is short and thick, and used for small articles of turnery; but it is incomparable for firewood. Two logs, that might not each be more than a yard long and one-third thick, suffice to keep a stew boiling, night and day, besides other kettles, enough for eight or ten people."—*Account of Trees and Shrubs in App. to Mrs. Graham's Chili.*

Tab. X. *Cordia decandra. Fig.* 1, Flower; *fig.* 2, Section of a corolla; *fig* 3, Pistil; *fig.* 4, Stamen; *fig.* 5, Capsule (*natural size*): all but *fig.* 5, more or less *magnified.*



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Ord. XLVI. HYDROPHYLLEÆ. *Br.*

1. PHACELIA. *Michaux.*

1. *P. circinnata;* foliis pinnatis ternatis hispidis rugosis lineatis, spicis glomeratis secundis hispidissimis. *Spr.—Jacq. in Spr. Syst. Veget. v.* 1. *p.* 584. *Cham. in Schlecht. v.* 4. *p.* 493.—Hydrophyllum magellanicum. *Lam.*—Heliotropium pinnatum. *Vahl.*

Hab. Conception.—Specimens which we have received from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges, gathered in the more northern parts of Chili, seem to be identical with the *P. peruviana*, Spr., (*Aldea pinnata*, Ruiz and Pavon,) if, indeed, that species be really distinct from *P. circinnata.*

Ord. XLVII. SCROPHULARINEÆ. *Br.*

1. VERONICA. *Linn.*

1. *V. acinifolia. Linn.*

Hab. Conception.—It differs from the Europæan plant of that name, only in the capsule being scarcely so deeply notched at the apex.

2. SCHIZANTHUS. *Ruiz & Pav.*

1. *S. pinnatus. Ruiz et Pav. Fl. Per. v.* 1. *p.* 13. *t.* 17. *Exot. Fl. t.* 73. *Bot. Mag. t.* 2404.

Hab. Valparaiso.—This we have received from Dr. Gillies and Mr. Cruckshanks; and the former gentleman has been so fortunate as to add three other species to this beautiful genus, by his researches in South America.

3. CALCEOLARIA. *Linn.*

1. *C. integrifolia;* foliis ovato-lanceolatis lanceolatisve denticulatis rugosis opacis subtus ferrugineis, caule calycibusque pubescentibus, paniculis terminalibus pedunculatis. *Lindl.*

α. latifolia; foliis ovato-lanceolatis argute denticulatis. *Lindl.*—C. integrifolia. *Bot. Reg. t.* 744.—C. rugosa. *Bot. Mag. t.* 2523.—C. salviæfolia. *Schlecht. et Cham.*—Chachoul. *Feuill. Chil. v.* 3. *t.* 7.

β. angustifolia; foliis utrinque attenuatis grosse denticulatis, paniculis longius pedunculatis. *Lindl. in Bot. Reg. t.* 1083.

Hab. *α.* Conception. *β.* Valparaiso.—We, too, consider the narrow-leaved plant as a state of *C. integrifolia*, although cultivation for some years in our garden proves it to be a permanent variety. In the Botanical Magazine, the same plant has since been called *C. rugosa;* but it is neither *C. rugosa*, Ruiz and Pav. v. 1. t. 286, nor of Hooker's Exotic Flora, t. 99. It has been also named *C. salviæfolia* by Schlechtendal and Chamisso in the Linnæa, v. 2. p. 565, who have been apparently led into this error by following Cavanilles, (Ic. v. 5. p. 31,) and by not having seen the figure of *C. rugosa* in the Flora Peruviana. In the herbarium, these species are very difficult of determination, the important differences existing in the upper lip of their corolla. In Feuillée's plant, and, consequently, in Linnæus' *C. integrifolia*, Sp. Pl. ed. 13, (not 14, nor of Smith's Ic. in ed. 1. t. 3, which is *C. ovata*, Roem. et Sch.) the upper lip, though not half so large as the lower, is similar to it in shape, and closes up its mouth. In *C. rugosa*, Fl. Per. and Hook. Ex. Fl. (the *C. scabiosæfolia* of Née in Cav. Ic. l. c.) the upper lip is so extremely minute as to be at first scarcely discernible, and it is of a totally different shape from the lower.

2. *C. corymbosa;* foliis radicalibus ovatis cordatisque petiolatis bicrenatis, caulinis cor-

datis semiamplexicalibus.—*Ruiz et Pav. Fl. Per. v.* 1. *p.* 14. *t.* 20. *f.* 6. *Bot. Mag. t.* 2418. *Bot. Reg. t.* 723.

HAB. Conception.

3. *C. petioalaris;* herbacea subpubescens, foliis ovatis basi attenuatis connatis grosse dentatis inferioribus subcordatis sessilibus, bracteis cordatis integerrimis, panicula trichotoma patentissima. *Hook.*—*Cav. Ic. v.* 5. *t.* 451.—C. connata. *Hook. in Bot. Mag. t.* 2876. —C. floribunda. *Lindl. in Bot. Reg. t.* 1214. (non *Humb. et Kunth.*)

HAB. Conception.

4. *C. punctata;* ramulis glandulosis, foliis oblongo-ovatis biserratis glabris purpureo-punctatis, pedunculis umbellatis, labio corollæ utroque subæquali. *Spr.*—*Ruiz et Pav. Fl. Per. v.* 1. *p.* 13. *t.* 18. *f. a.*—Gesnera, &c. *Feuill. Chil. v.* 3. *t.* 16.

HAB. Conception.

5. *C. violacea;* ramis violaceis, foliis ovatis dentatis subtus glaucescentibus villosis, pedunculis terminalibus filiformibus subcorymbosis. *Spr.*—*Cav. Ic. v.* 5. *p.* 31. *t.* 452.

HAB. Conception.

4. HEMIMERIS. *Linn.*

1. *H. urticæfolia. Willd.*—Celsia urticæfolia. *Bot. Mag. t.* 417.—Alonsoa incisæfolia. *Ruiz et Pav.*

HAB. Conception.

5. MIMULUS. *Linn.*

1. *M. luteus;* caule decumbente glabro, foliis dentatis supra pubescentibus, superioribus sessilibus ovatis, inferioribus petiolatis, pedunculis filiformibus foliis longioribus, corolla calyce multoties majore laciniis transversis, palato barbato. *Lindl.*—*Linn. Sp. Pl. p.* 884. *Bot. Reg. t.* 1030. *Feuill. Chil. v.* 2. *t.* 34.

HAB. Conception.—This is not the *M. luteus* of the Botanical Magazine and of most authors, which De Candolle has long ago showed to be a distinct plant, called by him *M. guttatus.* Linnæus established the species upon the figure given by Feuillée, without having seen a specimen, and it is only within these few years, by the exertions of Mr. Macrae and Dr. Gillies, that the plant has become well known. In beauty it far excels the commoner *M. guttatus.*

6. CASTILLEJA. *Mutis.*

1. *C. laciniata;* pilis raris rigidis obsita, caule erecto herbaceo, foliis linearibus 3-fido-pinnatifidis laciniis elongatis filiformibus, floribus axillaribus subsessilibus, calyce corollam subæquante.

HAB. Conception.—Very closely allied to *C. nubigena,* but that appears fruticose, and has an inflated calyx, and the segments of its leaves are much broader and shorter than in our plant.

7. BUDDLEIA. *Linn.*

1. *B. globosa;* ramis teretibus, foliis oblongo-lanceolatis utrinque attenuatis crenulatis subtus tomentosis, capitulis globosis pedunculatis. *Spr.*—*Lam.*—*Bot. Mag. t.* 174.—Palquin, *Feuill. Chil. v.* 3. *t.* 38.

HAB. Conception.

Ord. XLVIII. GESNERIACEÆ. *Rich.*

1. SARMIÆNTA. *Ruiz & Pav.*

1. *S. repens. Ruiz et Pav. Fl. Per. v.* 1. *p.* 8. *t.* 7. *f. b.*—Urceolaria chilensis. *Mol. Chil.—Feuill. Chil. v.* 3. *t.* 43.

Hab. Conception.—Formerly arranged among the *Scrophularineæ*, but its real affinity was always considered doubtful till lately, when Martius, in the Nov. Gen. Bras. v. 3. p. 68, referred it to the *Gesneriaceæ*. We ourselves have no means of examining into the validity of his reasons, as the only specimen in the collection has but one flower, and no fruit.

Ord. XLIX. LABIATÆ. *Juss.*

1. SPHACELE. *Benth.*

1. *S. campanulata;* foliis basi attenuatis.—*Benth. in Bot. Reg. t.* 1289.—Algue Laguen. *Feuill. Chil. v.* 3. *t.* 1.

2. *S. Lindleyi;* foliis basi hastato-sagittatis.—*Benth. in Bot. Mag. t.* 2993.—Stachys salviæ. *Lindl. Bot. Reg. t.* 1226.

2. SATUREJA. *Linn.*

1. *S. montana. Linn.*

Hab. Valparaiso.—Introduced from Europe.

3. TEUCRIUM. *Linn.*

1. *T. orchideum;* foliis oblongis obtusis integerrimis trilobisque pubescentibus, dentibus calycis ovatis, limbo corollæ 5-fido secundo labellæformi, floribus axillaribus solitariis, caule suffruticoso. *Lindl. in Bot. Reg. t.* 1255.

Hab. Conception.

4. STACHYS. *Linn.*

1. *S. grandidentata;* caule adscendente hispido, foliis ovato-oblongis grosse dentatis sublucidis hirsutis summis sessilibus, verticillis sub-6-floris, galea subintegra.—*Lindl. in Bot. Reg. t.* 1080.

Hab. Conception.—Ours is certainly the same with Mr. Lindley's plant, but it appears to us very variable, and in some respects approaches too closely to *S. arvensis*.

Ord. L. ACANTHACEÆ. *Juss.*

I. RUELLIA.

1. *R. dulcis;* caule simplici humili herbaceo, foliis longe petiolatis oblongis integerrimis, pedunculis bracteatis folio brevioribus. *Spr.—Cav. Ic. v.* 6. *p.* 62. *t.* 585. *f.* 2.

Hab. Island of Quiriguina, near Conception.

Ord. LI. VERBENACEÆ. *Juss.*

1. VERBENA. *Linn.*

1. *V. erinoides;* caule adscendente ramoso hirto, foliis tripartito-laciniatis hirsutis,

laciniis lineari-lanceolatis subdentatis, spicis axillaribus solitariis laxis, bracteis calycem æquantibus patulis. *Spr.—Willd. En.—Hook. Bot. Misc. v.* 1. *p.* 68.—Sandia Laguen. *Feuill. Chil. v.* 3. *t.* 25.

Hab. Conception, Valparaiso, and Coquimbo.—There are several varieties of this polymorphous species in the collection. For a fuller account of them, see the Botanical Miscellany above quoted.

2. *V. salviæfolia;* ramis junioribus tomentosis, foliis ovato-lanceolatis sessilibus subserratis supra scabris rugosis subtus pubescentibus reticulatis, pedunculis lateralibus elongatis, floribus verticillato-spicatis, calyce hispidissimo, corolla 4-fida.

Caulis erectus, lignosus, ætate glaber, nitidus. *Rami* juniores dense tomentosi. *Folia* numerosa, opposita, 1½ unciam longa, subcoriacea, rugosa, supra atro-viridia, subtus pallidiora, punctis micantibus fragrantibus adspersa. *Flores* in spicam densam verticillatim dispositi.

Hab. Coquimbo.—Very nearly allied to *V. gratissima* of Gillies and Hooker in the Botanical Miscellany, differing, however, in its much stouter mode of growth, its larger, more wrinkled, and more scabrous foliage, and, especially, in the much more crowded spike.

Ord. LII. PRIMULACEÆ. *Juss.*

1. ANAGALLIS. *Linn.*

1. *A. cærulea. Schreb.—Engl. Bot. t.* 1823.

Hab. Conception.

Subcl. IV. MONOCHLAMYDEÆ. *DC.*

Ord. LIII. PLUMBAGINEÆ. *Juss.*

1. PLUMBAGO. *Linn.*

1. *P. cærulea;* caulibus herbaceis, procumbentibus aut volubilibus, sulcatis, ramulis spicisque viscoso-glandulosis: foliis sessilibus, amplexicalibus, ovato-oblongis, integerrimis, glabris; corollis cæruleis. *Humb. et Kunth, Nov. Gen. v.* 2. *p.* 220.

Hab. Coquimbo.

2. ARMERIA. *Tourn.*

1. *A. curvifolia;* foliis filiformibus flexuosis glabris, scapo elato terete glabro, involucri foliolis exterioribus acuminatis interioribus rotundatis.—*Bertero, in Bull. des Sc.* 1830. *p.* 108. (*absque char.*)

Hab. Conception.—We think there can be little doubt that this is the *A. curvifolia* of Bertero in the work above quoted, though, unfortunately, as of the other Chilian plants there mentioned, no specific characters are given. The leaves are five or six inches long, and filiform: the scape one and a half to two feet high. Bertero speaks of it as very common upon stony hills, and as being allied to *A. fasciculata.* We possess, however, other specimens from Conception, gathered by Mr. Cruckshanks and Mr. Macrae, which have much shorter, broader, and obtuse leaves, and which we can scarcely distinguish from the British *A. maritima.*

ORD. LIV. PLANTAGINEÆ. *Juss.*

1. PLANTAGO. *Linn.*

1. *P. media. Linn.*

HAB. Conception.—This appears to accord with some of the states of *P. tomentosa* (Lam.) mentioned by Chamisso and Schlechtendal, which they describe as having three seeds in each capsule; and of *P. truncata*, of the same authors, which, however, has a clavate and truncated spike.

2. *P. mollis;* subcaulescens, foliis lineari-lanceolatis cinereo-sericeis, scapis folio vix longioribus pubescenti-hirsutis, spicis laxiusculis cylindricis, capsula biloculari disperma.

HAB. Conception.—Allied to *P. hirsuta* of Ruiz and Pavon, from Peru, (*P. limensis*, Pers.); but that has broader leaves and much shorter spikes. We have also received this from Mr. Bridges, from the mountains about Valparaiso.

3. *P. hispidula;* acaulis, foliis linearibus sericeo-hirsutis, scapo foliis duplo longiore hirsuto-pubescente, spica oblonga hirsuta, capsula polysperma.—*Ruiz et Pav. Fl. Per. v.* 1. *t.* 78.—P. tumida. *Link, En. Hort. Ber. v.* 1. *p.* 121? *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 168?

HAB. Valparaiso.—Mr. Bridges has likewise sent us this species.

ORD. LV. POLYGONEÆ. *Juss.*

1. POLYGONUM. *Linn.*

1. *P. maritimum. Linn.*

HAB. Conception.

2. *P. tamnifolium;* caule fruticoso volubili, foliis ovatis acutis cordatis glabris, paniculis axillaribus geminis, floribus polygamis octandris, achenio triangulari.—*Humb. et Kunth, Nov. Gen. v.* 2. *p.* 180. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 40.

HAB. Valparaiso.—This also we have received from Mr. Bridges, gathered in the same locality. Sprengel refers to it the *Coccoloba australis* of Forster, and certainly that, as well as the present species, is a congener with *P. adpressum* of La Billardière. We have received likewise from Valparaiso, from Mr. Macrae, a third species of this genus, but which we cannot distinguish from *P. Persicaria*, found also in Chili by Chamisso, and which is *Persicaria*, &c. Feuill. Chil. v. 3. t. 40.

2. RUMEX. *Linn.*

1. *R. cuneifolius;* foliis infimis obovatis margine crispatis, verticillis superioribus aphyllis, sepalis internis demum ovato-lanceolatis acutis integris, omnibus granulatis. *Camb. Rum. p.* 95.—*Cham. et Schlecht. in Linnæa, v.* 3. *p.* 58.

HAB. Cultivated fields near Conception.—The only specimen in the collection is in a very imperfect state, but from it, and the notes of Mr. Collie, who appears to have found it in fruit, we have determined it to be that variety of *R. cuneifolius* which was previously found near the same place by Chamisso.

ORD. LVI. CHENOPODEÆ. *Vent.*

1. SALICORNIA. *Linn.*

1. *S. radicans? Linn.*

Hab. Conception.—The specimen in the collection is so indifferent as to prevent us from determining it with precision. It may possibly be *S. peruviana*, Humb. and Kunth.

Ord. LVII. PROTEACEÆ. *Juss.*

1. LOMATIA. *Br.*

1. *L. obliqua;* foliis ovatis serratis glabris, racemis axillaribus, pedicellis calycibusque pilosis, stigmate deciduo. *Br. in Linn. Trans. v.* 10. *p.* 201.—Embothrium obliquum. *Ruiz et Pav. Fl. Per. v.* 1. *p.* 83. *t.* 97.

Hab. Conception.—Another, and a very interesting plant of this order, the *Quadria heterophylla*, Ruiz and Pav. Fl. Per. v. 1. p. 64. t. 99. f. *b*, or the "*Nebu*" of Feuill. Chil. v. 3. t. 33, occurs at Conception, but does not appear to have been collected. The nut is much esteemed, and is sold commonly in the market of Conception under the name of "Avellano," or chestnut. By the liberality of Mr. Cruckshanks, it has been introduced to the Glasgow Botanic Garden.

Ord. LVIII. SANTALACEÆ. *Br.*

1. QUINCHAMALIUM. *Juss.*

1. *Q. chilense. Lam. Ill. t.* 142.—Q. procumbens. *Ruiz et Pav. Fl. Per. v.* 1. *t.* 107. *f. b.*—Quinchamali, &c. *Feuill. Chil. v.* 2. *t.* 44.

α. *robustior;* foliis linearibus.

β. *gracilis;* foliis filiformibus.

Hab. α. Conception. β. Valparaiso.—We have given no specific character, the other species mentioned by Sprengel, or the *Arjonia tuberosa*, Cav. Ic. v. 4. t. 383, from Patagonia, being hitherto involved in great uncertainty, and probably belonging to the *Thymeleæ*.

Ord. LIX. EUPHORBIACEÆ. *Juss.*

1. EUPHORBIA. *Linn.*

1. *E. rotundifolia;* suffruticosa diffusa, foliis oppositis rotundatis emarginatis basi leviter cordatis integerrimis carnosulis glabris subtus pallidis, stipulis intrapetiolaribus, floribus paucis terminalibus umbellatis.

Hab. Conception.—This belongs to the section "*Anisophyllum*" of Roeper in the Botanicon Gallicum, but our specimens not being in fruit, prevent our giving a more perfect character. To *E. serpyllifolia*, Pers., and *E. serpens*, Humb. and Kunth, (one and the same species,) our plant is very closely allied; the flowers, however, are not axillary and solitary, but collected, five or six together, on rather short, simple peduncles at the extremity of the branches.

2. *E. Lathyris. Linn.—Roeper, En. Euph. p.* 67.

Hab. (*β. minor.*) Conception.—We can find no essential difference between the, imperfect, specimen in the collection and the Europæan plant, except the much smaller size, being only about fifteen inches high, and that the leaves, instead of being flaccid, are inclined to be coriaceous.

3. *E. falcata? Linn.—Roeper, En. Euph. p.* 67.

Hab. Coquimbo.

2. CROTON. *Linn.*

1. *C. lanceolatus;* herbaceus, foliis oblongo-lanceolatis remote dentatis glabris eglandulosis, junioribus ciliatis, racemis axillaribus, floribus masculis 5-andris, petalis 3-cuspidatis, fructibus tomentosis. *Spr.—Cav. Ic. v.* 6. *t.* 557. *f.* 2.—C. tricuspidatum. *Lam.*

Hab. Conception.

Ord. LX. EMPETREÆ. *Nutt.*

1. EMPETRUM. *Linn.*

1. *E. rubrum;* procumbens, ramulis pubescentibus, foliis oblongis margine revolutis supra scabriusculis. *Spr.—Vahl.*

Hab. Conception.—Mr. Don has separated from this genus the *E. album*, under the name of *Corema*, in the Edin. New Phil. Journ. v. 2. p. 63, and, in the same paper, has pointed out, at length, the affinities of the order with the *Euphorbiaceæ.*

Ord. LXI. URTICEÆ. *Juss.*

1. GUNNERA. *Linn.*

1. *G. scabra;* foliis lobatis, petiolis granulosis, thyrsis magnis. *Ruiz et Pav. Fl. Per. v.* 1. *p.* 29. *t.* 44. *f. a.*—Panke, &c. *Feuill. Chil. v.* 2. *p.* 30.

Hab. Conception.—We have determined the plant from Mr. Collie's notes, for it has not been sent us in the Collection.—Allied to this Order, but forming part of the *Monimeæ*, is the *Boldu* of Chili, which, though no specimens were obtained by the Expedition, we ought not to pass over. One of the first plants, Feuillée says, that he collected on landing, was the "*Boldu*," but neither in flower nor fruit, and the figure he gives was from another individual, gathered afterwards in the mountains. This has six stamens, and is the *Boldus chilensis* of Molina, (Saggio Sulla Storia, Nat. del Chil. ed. 2. p. 153,) and of Roemer and Schultes, Syst. v. 7. p. 57; but from what we have received from Mr. Cruckshanks, this is certainly not the true *Boldu*, a name confined to one plant, and not, as Molina says, given to several. The plant of Feuillée is still involved in considerable doubt, inasmuch as it is very uncertain if Molina ever saw it, he having in many cases contented himself with giving fanciful names to Feuillée's indifferent descriptions. It is certainly, however, the *Peumus Boldus* of Molina's History of Chili; and if actually an existing plant, may be arranged with his other kinds of *Peumo*, or Chilian species of *Laurus;* but the extreme resemblance of the leaf to that of the real *Boldu*, leads us to suspect that the plant of Feuillée, having opposite leaves, may be compounded of the stem and leaves of the true *Boldu*, while the flowers may belong to something very different. One species of the *Peumo* is now before us, from Mr. Macrae, agreeing tolerably with the *Peumus rubra* of Molina, and constituting probably the *Laurus Peumus* of Lamarck: the leaves are oblong obtuse, alternate on a very short petiole, one-nerved, the margin cartilaginous, or as if formed of a nerve, very entire, but undulate, at least in the dry state: the flowers (only in bud) are in a terminal raceme. The *Boldu* was first described in the Flora Peruviana, (Genera, p. 135. t. 29,) by the name of *Ruizia Boldu*, but there being already the *Ruizia* of Cavanilles, it was necessary to adopt some other appellation. Richard, in Persoon's Synopsis, supposing it, as many others have done, to be the *Peumus Boldus* of Molina, took up that name, but with the character given by Ruiz and Pavon; and, soon afterwards, Jussieu gave it that of *Boldoa*. We prefer that of Jussieu, as the appellation "*Boldu*" is peculiar to our plant. We are aware that there is a *Boldea* of Cavanilles, but that is the same with *Salpianthus* of Humb. and Bonpl. We have received specimens from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges, from the neighbourhood of Valparaiso. The "*Laurel*" of Chili, (*Laurelia aromatica*, Juss., or *Thiga chilensis*, Mol., and *Pavonia* of the Fl. Per.) belongs also to the order of *Monimeæ*, but this we have not seen. Mr. Cruckshanks informs us that it grows throughout the province of Conception, and that the wood is brought to Valparaiso, and much used, on account of its cheapness, for in-door work, as the following plant, the "*Roble,*" *Fagus obliqua*, is for standing the weather.

ORD. LXII. AMENTACEÆ. *Juss.*

1. FAGUS. *Tourn.*

1. *F. obliqua;* foliis ovato-oblongis obliquis subrhomboideis obtusis duplicato-serratis basi integris in petiolum attenuatis pilosiusculis, perianthiis masculis solitariis hemisphæricis sinuatis 30–40-andris, cupulis capsuliformibus muricatis quadripartitis, segmentis ovatis obtusis, ovariis inclusis triquetris, angulis alatis. *Mirbel, in Mém. du Mus. v.* 14. *p.* 465. *t.* 23.

HAB. Conception.

CL. II. MONOCOTYLEDONEÆ.

ORD. LXIII. ORCHIDEÆ. *Juss.*

1. CHLORÆA. *Lindl.*

Pollinia 2 pulverea bipartita, cauliculis glandulisque nullis. *Anthera* terminalis opercularis bilocularis, loculis completis septulo incompleto bipartitis. *Stigma* transversum ovatum in apice columnæ. *Columna* semiteres membranaceo-marginata. *Labellum* anticum cucullatum basi cordatum, cum columna levissime connatum, cristatum, lobo medio sæpissime carnoso. *Sepala* subæqualia ringentia membranacea venosa; supremo galeato, interioribus sub galea conniventibus, exterioribus labello suppositis, apice anamorphose repressa, carnosis dilatatis.—Herbæ *Amer. austr. temp, terrestres, radicibus fasciculatis.* Folia *plana, verticalia, venosa.* Scapi *multiflori, terminales, squamosi.* Flores *subherbacei. Lindl.*

1. *C. multiflora;* foliis oblongis scapo longe brevioribus, sepalis inferioribus lanceolatis patentibus apice carnosis dilatatis hinc membranaceis, labello oblongo membranaceo unguiculato, crista rara glandulosa, lobis lateralibus abbreviatis intermedio elongato obtuso crispo. *Lindl. in Brande's New Journ. of Science,* 1827, *p.* 43.

HAB. Conception.—Mr. Lindley has described nine species of this genus, of which we possess several from Mr. Cruckshanks, Mr. Bridges, and Mr. Macrae. The "*Gairlu,*" Feuill. Chil. v. 2. t. 18, is *C. Gairlu*, or *Cymbidium luteum*, Willd. The *Epipactis*, &c. Feuill. Chil. v. 2. t. 19, or *Cymb. virescens*, Willd., is *Chl. virescens.* The *Epipactis*, &c. Feuill. Chil. v. 2. t. 17, is *Spiranthes diuretica.* The other orchideous plant of Feuill. t. 20, Mr. Lindley has not referred to.

ORD. LXIV. IRIDEÆ. *Juss.*

1. SISYRRHYNCHIUM. *Linn.*

1. *S. graminifolium;* scapo tereti, foliis lineari-ensiformibus scabriusculis scapo subæqualibus, spathis exterioribus subfoliaceis interioribus obtusis marginatis, intimis mem-

branaceis, laciniis perianthii oblongis mucronatis, scapo 1–3-stachyo, ovario glanduloso. *Lindl. in Bot. Reg. t.* 1067.

HAB. Conception.

2. *S. pedunculatum;* caule folioso teretiusculo, foliis ensiformibus, pedunculis elongatis simplicibus, spathis exterioribus ovatis marginibus membranaceis, interioribus scariosis albidis, perianthii laciniis obovatis basi angustatis, staminum columna densissime glanduloso-pilosa, stigmatibus brevissimis, ovario glabro. *Hook. in Bot. Mag. t.* 2965.—*Gillies, MSS.*

HAB. Conception.—Dr. Gillies and Mr. Cruckshanks found it likewise at Valparaiso.

3. *S. iridifolium;* foliis ensiformibus margine scabris culmo foliaceo-ancipiti brevioribus, ramis parallellis ex articuli vagina, spathis terminalibus, perianthii laciniis extus inferne germineque pubescentibus, filamento monadelpho intus barbato, capsula rotunda nudiuscula.—*Humb. et Kunth, Nov. Gen. v.* 1. *p.* 260.—S. laxum. *Bot. Mag. t.* 2312.—Marica iridifolia. *Bot. Reg. t.* 646.

HAB. Valparaiso and Conception.

4. *S. chilense;* caule ramoso ancipiti alato, foliis ensiformibus, perianthii laciniis oblongis subspathulatis retusis mucronatis, capsula pyriformi pubescente, pedunculis pedicellisque gracillimis. *Hook. in Bot. Mag. t.* 2786.

HAB. Conception. (Also at Valparaiso. *Mr. Cruckshanks.*)

5. *S. striatum. Sm. Ic. Pict. t.* 9. *Redouté. Lil. v.* 2. *t.* 66.—S. spicatum. *Cav. Ic. t.* 104. —Marica striata. *Bot. Mag. t.* 701.

HAB. Conception: probably introduced.—A well-known garden plant, originally from Mexico.

6. *S. sessiliflorum;* foliis lineari-ensiformibus rigidis glaberrimis striatis costatis margine incrassatis, scapo simplici bracteato foliis longiore, floribus sessilibus glomeratis, glomerulis approximatis spicam interruptam efformantibus, ovariis glabris.

HAB. Conception.—We have not seen the flowers in a state which enables us to describe them. They appear to be pale yellow. The stamina are free for their upper half: the stigmas are long.

ORD. LXV. AMARYLLIDEÆ. *Br.*

1. AMARYLLIS. *Linn.*

1. *A. chilensis;* foliis linearibus compressis carnosis, scapo purpurascente, spatha colorata sub-biflora, tubo brevi intus squamis 3–4-fidis coronato, laciniis lanceolatis patulis, filamentis declinatis corolla brevioribus. *Spr.*—*L'Hérit. Sert. Angl. p.* 11. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 56.

HAB. Conception.—Very variable in the colour of its blossoms. The *A. flammea,* Ruiz and Pav. (Feuill. Chil. v. 3. t. 21,) found also at Conception, and allied to this, has never more than one flower. There are several other species, natives of Chili.

2. ALSTRŒMERIA. *Linn.*

1. *A. Salsilla;* caule volubili, foliis glabris petiolatis lanceolatis acuminatis resupinatis,

umbella multiflora, pedunculis involucro longioribus glabris subramosis, perianthii laciniis subæqualibus.—*Linn.*—*Bot. Mag. t.* 1613. *Bot. Reg. t.* 649.—Hemerocallis, &c. *Feuill. Chil. v.* 2. *t.* 6.

HAB. Conception.—From this the *A. acutifolia* of Link and Otto is chiefly to be distinguished by the leaves and the peduncles being pubescent.

ORD. LXVI. DIOSCOREÆ. *Br.*

1. DIOSCOREA. *Linn.*

1. *D. gracilis;* caule glabro, foliis cordato-ovatis acuminatis 7–9-nerviis glabris, racemis axillaribus rarifloris, floribus masculis subbinis, fructibus subrotundis 3-alatis.

HAB. Valparaiso.

2. *D. obtusifolia;* caule glabro, foliis alternis cordato-subrotundis mucronulatis 7-nerviis utrinque glabris, racemis axillaribus subsimplicibus elongatis rarifloris, floribus (masculis) pedicellatis subternis.

HAB. Island of Quiriguina, near Conception.

ORD. LXVII. ASPHODELEÆ. *Br.*

1. LUZURIAGA. *Ruiz & Pav.*

1. *L. radicans;* caule suffruticoso geniculato folioso scandente radicante, foliis alternis lanceolatis obliquis, pedunculis axillaribus divisis. *Spr.*—*Ruiz et Pav. Fl. Per. v.* 3. *t.* 298.

HAB. Conception.

2. LEUCOCORYNE. *Lindl.*

Perianthium hypocrateriforme, cum pedicello continuum, limbo 6-partito. *Stamina* 3 fertilia e tubo exorta; 3 sterilia carnosa teretia e fauce laciniis corollinis opposita. *Squamæ* hypogynæ nullæ. *Ovarium* sessile triloculare polyspermum; stylus teres, cum ovario articulatum; stigma simplex.—Herbæ (*chilenses,*) *cormis induviatis.* Flores *umbellati. Lindl.*

1. *L. odorata;* foliis linearibus glaucis, limbi laciniis lanceolatis sublaciniatis, staminibus sterilibus subulatis obtusis, pedunculis subæqualibus tubo brevioribus. *Lindl. in Bot. Reg. t.* 1293.

HAB. Valparaiso.

2. *L. alliacea;* foliis linearibus, limbi laciniis erectis acuminatis subæqualibus, staminibus sterilibus clavatis, pedunculis valde inæqualibus; longioribus capillaribus. *Lindl. in Bot. Reg. sub. t.* 1293.

HAB. Conception.—One other species, *L. ixioides,* (*Brodiæa ixioides,* Bot. Mag. t. 2382,) is known. Allied to this genus is *Triteleia,* Hook. In it, however, there are six fertile stamens, a pedunculated ovarium, with which the style is continuous, and three stigmas: of three species mentioned by Mr. Lindley, one, *T. bivalvis,* is from Chili.

3. ORNITHOGALUM. *Linn.*

1. *O. gramineum;* scapo angulato folia linearia superante, floribus umbellatis, pedunculis erectis, perianthii laciniis ovatis acutis striatis. *Bot. Mag. t.* 2419.—Lilio-narcissus polyanthus albus, Phalangii flore. *Feuill. Chil. v.* 3. *p.* 30. *t.* 21.

Hab. Conception.

4. ANTHERICUM. *Linn.*

1. *A.? plumosum;* radice fasciculata, foliis lineari-ensiformibus, scapo nudiusculo striato angulato 2–4-floro foliis triplo longiore, perianthii laciniis exterioribus glabris interioribus barbato-plumosis. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 300. *f.* 6. *Bot. Mag. t.* 3084.

Hab. Conception.—This probably belongs rather to *Thysanotus*, Br.

5. STYPANDRA. *Br.*

1. *S. cærulea;* radice fibrosa, foliis ensiformibus subdistichis erectis scapo ramoso brevioribus, perianthii laciniis exterioribus oblongis interioribus ellipticis latioribus.—Anthericum cœruleum. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 299.—Bermudiana, &c. *Feuill. Chil. v.* 2. *t.* 8.

Hab. Conception.—Mr. Brown, in his Prodromus Fl. Nov. Holl. p. 279, first suggested that this species, as also the *Anthericum coarctatum* of the Flora Peruviana, was referable to *Stypandra.*

Ord. LXVIII. JUNCEÆ. *Juss.*

1. LUZULA. *DC.*

1. *L. interrupta;* culmo parce folioso, foliis planis latiusculis nervosis, panicula racemoso-spicata recta, floribus fuscis, capitulis oblongis, bracteis ovatis acuminatis membranaceis fimbriato-ciliatis, perianthii laciniis exterioribus ovatis interioribus brevioribus latioribus aristato-acuminatis capsulam subrotundam obtusam paulo superantibus.—*Desv. Journ. Bot. p.* 163. *t.* 6. *f.* 4.? *Rœm. et Schul. Syst. v.* 7. *p.* 261.

Hab. Conception.—La Harpe unites this with *L. racemosa,* Desv. perhaps correctly, but we are not quite certain that ours is the plant intended by Desvaux: it is, however, that which Rœmer and Schultes (l. c.) have described from Chili, as seen in the Herbarium of Martius. The panicle consists of dense racemose spikelets, one of which, at a distance from the others, arises from the axil of the upper leaf.

Ord. LXIX. CYPERACEÆ. *Juss.*

1. SCIRPUS. *Linn.*

1. *S. minimus;* annuus, spica subglobosa subsolitaria laterali, culmo angulato foliisque capillaribus, achenio acuto triquetro densissime impresso-punctato, setis hypogynis 3. *Vahl, Enum.* 2. *p.* 253.

Hab. Conception.—This seems to agree exactly with Vahl's plant.

2. *S. longifolius;* radice repente, culmo folioso triquetro, foliis angustis acute carinatis spongiosis culmum superantibus, spiculis 4–5 glomeratis subsessilibus lateralibus, glumis emarginatis mucronatis, setis hypogynis 3, stylo 3-fido.

Hab. Conception.—Very similar to *S. mucronatus;* but the leaves are much longer. The bracteas are oblong and scariose, and furnished with a dorsal nerve that becomes a long triquetrous mucro. The glumes resemble the bracteas, but the mucro is shorter.

2. CAREX. *Linn.*

1. *C. hebecarpa;* culmo triquetro scabriusculo, foliis margine scabris, bracteis foliaceis elongatis inferiore vaginato superioribus evaginatis, spicis sterilibus 2 vel 3 sessilibus, squamis oblongo-lanceolatis fertilibus cylindraceis acutis superioribus subsessilibus infima pedunculata, pedunculo vagina duplo longiore, squamis subulatis fructum lanceolatum striatum hispidum rostro bifido glabro æquantibus, stigmatibus 3.

Hab. Conception.—Very closely allied to *C. riparia*, from which it differs by its narrower scales and much more attenuated fruit, which is covered with short papillæ or scabrous points. Of the sterile spikes, the lower scales are oblong and mucronate, but the membranous portion becomes shorter and the mucro longer towards the extremity of the spike, so that at the top the scales are nearly as in the fertile spikes.

3. UNCINIA. *Pers.*

1. *U. phleoides;* spica cylindrica superne mascula, fructibus 3-fariam arcte imbricatis lanceolatis triquetris apice ciliatis, aristis hamatis elongatis. *Spr.—Pers. Syn. Pl. v. 2. p. 534. Cav. Ic. v. 5. t. 464. f. 1.*

Hab. Conception.

Ord. LXX. GRAMINEÆ. *Juss.*

1. TORRESIA. *Beauv.*

1. *T. magellanica;* panicula effusa subnutante, glumis uninervibus carina lævibus, flosculis masculis aristatis pubescentibus dorso margineque ciliatis villis subcurvatis hermaphrodito mucronulato, foliis planis. *Rœm. et Schul. Syst. Veget. v. 2. p.* 516.—Melica magellanica. *Desv. in Lam. Encycl.*—Hierochloe antarctica. *Br. Prodr. Fl. Nov. Holl. v.* 1. *p.* 209.—Disarrhenum antarcticum. *Labill. Nov. Holl. v.* 2. *p.* 83. *t.* 332.—Holcus redolens. *Forst. Prodr. n.* 563?

Hab. Conception.

2. AIRA. *Linn.*

1. *A. caryophyllea. Linn.?*

Hab. Conception.

3. POLYPOGON. *Desf.*

1. *P. monspeliense. Desf.*—Alopecurus monspeliensis. *Linn.*—Agrostis panicea. *Willd.*—*Engl. Bot. t.* 1704.

Hab. Valparaiso.—*Polypogon australe* of Brongniart, in Duperrey's Voy. p. 21, appears to be only a variety of the present.

4. CALOTHECA. *Beauv.*

1. *C. stricta;* culmo scabriusculo, foliis convolutis scabris, panicula subsimplici coarctata, spiculis ovatis erectis 7-floris, glumis calycinis ovatis rotundatis 3–5-nervibus glabris corollinis glabris nitentibus, exteriore duplo majore subrotundata acutiuscula mutica.

Hab. Conception.—This is closely allied to the *C. rotundata*, Rœm. and Schul. (*Bromus rotundatus*, H. and B.) and also to Desvaux's *Chascolytrum erectum*, whose panicle has the branches simple. The species referred to these two genera by Rœmer and Schultes, are in great confusion. Thus, their *Calotheca rotundata* is a *Chascolytrum*. The *Cal. brizoides*, Beauv., is not the plant of Desvaux, or of Rœmer and Schultes,

but is the *Chascolytrum erectum* of Rœm., and Schul. Even the two other synonyms, reduced by these authors to *C. brizoides*, cannot belong to it; for the *Briza mucronata*, Lam. (founded on the *Uniola mucronata*, Burm.) is an East Indian, not a South American plant; and *Bromus brizoides*, Lam., has an erect panicle and glabrous glumes; it has, however, a lanceolate calyx, and seems to be a true *Calotheca*. *Calotheca elegans*, Beauv., not noticed by other authors, is *Chascolytrum subaristatum*, Desv.

5. ALOPECURUS. *Linn.*

1. *A. pratensis. Linn.*

HAB. Conception.

6. MELICA. *Linn.*

1. *M. violacea;* panicula subspicata secunda, corollis violaceis ciliatis, calycis valvula exteriore argentea apice denticulata. *Rœm. et Schul.—Cav. Ic. v.* 5. *p.* 47. *t.* 472. *f.* 2. *Rœm. et Schul. v.* 2. *p.* 527.

HAB. Valparaiso.

7. POA. *Linn.*

1. *P. annua. Linn.*

HAB. Conception.

8. HORDEUM. *Linn.*

1. *H. murinum. Linn.*

HAB. Conception.

9. CHUSQUEA. *Kunth.*

1. *C. scandens. Kunth, Syn. Pl. Æq.* 1. *p.* 254.—Arundo Quila. *Mol.—Poir. Enc.* 6. *p.* 274.

HAB. Valparaiso, (sent also by Mr. Bridges.)—This we have the authority of Mr. Cruckshanks for stating to be the plant of Molina: there is, however, only one flower in each spikelet, instead of three, as he and Poiret assert it to have; nor can we discover any essential difference between it and the Peruvian plant of Kunth; but this last we only know from his description. Our plant has the flowers monœcious or polygamous. The style is bipartite: the hypogynous scales with two acuminated points.

CL. II. ACOTYLEDONES.

ORD. LXXI. EQUISETACEÆ.

1. EQUISETUM. *Linn.*

1. *E. pratense;* fronde erecta ramosa scaberrima, ramis tetragonis spiciferis, vaginarum dentibus scariosis subulatis, spicis abbreviatis. *Spr.—Ehrh. Beitr.* 3. *p.* 77. *Willd. Sp. Pl. v.* 5. *p.* 6. *Spreng. Syst. Veget. v.* 4. *p.* 10.

HAB. Conception.—As far as can be judged from the descriptions of *E. pratense* of Ehrh., our plant is the same species. The specimens are from 4–5 inches to a span long, much branched at the base. We have the same species from Valparaiso, gathered by Mr. Mathews. It seems to differ from the *E. palustre* only in its rougher stems.

ORD. LXXII. FILICES.

1. NOTOCHLÆNA. *Br.*

1. *N. rufa;* frondibus linearibus pinnatis, pinnis subsessilibus alternis ovatis obtusis

inciso-pinnatifidis subtus rufo-tomentosis, supra rhachi stipiteque rufo-hirsutis. *Presl, Reliq. Hænk. v.* 1. *p.* 19.

Hab. Conception.—The specimen is a solitary one, scarcely two inches high, and agreeing with Presl's *var. β.* in having the upper side of the frond nearly destitute of hairs.

2. POLYPODIUM. *Linn.*

1. *P. trilobum;* frondibus simplicibus tripartitis, laciniis lanceolatis acuminatis marginato-serrulatis terminali longiori, soris oblongis solitariis. *Kaulf.*—" *Cav. Præl.* 1801. *n.* 604." *Willd. Sp. Pl. v.* 5. *p.* 164. *Spreng. Syst. Veget. v.* 4. *p.* 48.

Hab. Conception.

2. *P. rugulosum;* frondibus tripinnatifidis, pinnulis profunde pinnatifidis oblongis, laciniis ovatis obtusis obtuse serratis, soris solitariis submarginalibus, stipite rachibusque universalibus supra canaliculatis asperis, partialibus hirtis. *Kaulf.—Labill. Nov. Holl. v.* 2. *p.* 92. *t.* 241. *Willd. Sp. Pl. v.* 5. *p.* 206. *Br. Prodr. v.* 1. *p.* 147. *Spreng. Syst. Veget. v.* 4. *p.* 61.

Hab. Conception.—Our specimens entirely accord with the New Holland plant figured by Labillardière.

3. ASPIDIUM. *Br.*

1. *A. subintegerrimum;* fronde lato-lanceolata bipinnata, pinnis lineari-lanceolatis attenuatis, pinnulis coriaceis ovatis subfalcatis petiolatis basi superne auriculatis mucronatis obscure crenato-serratis summis confluentibus, inferioribus rachi parallelis subpinnatifidis supra glabris subtus stipite rachique paleaceo-hirsutis.

Stipes supra canaliculatus, hic illic punctis nigris (spinularum vestigiis?) aspera. *Frons* bipedalis et ultra. *Pinnæ* subhorizontaliter patentes, *inferiores* reflexæ, palmares: *Pinnulæ* vix unciam longæ, *inferiores* remotæ, *superiores* confertiores, superne coadunatæ. *Sori* discreti inter costam et marginem uniseriales. *Indusia* peltata, umbilicata, parva.

Hab. Conception.—Very nearly allied to *A. aculeatum* and others of that groupe, but particularly to *A. stramineum*, Kaulf.;—from all which it differs in the lengthened attenuated pinnæ, nearly entire pinnulæ, of which the lower ones are remote, the lowest pair more or less lobed, or even pinnatifid, standing parallel with the rachis.

2. *A. vestitum;* frondibus bipinnatis, pinnis lineari-lanceolatis inferioribus deflexis, pinnulis ovato-oblongis mucronatis serratis dentibus muticis basi superiori auriculatis subtus villosis infimis superioribus longioribus oblongo-lanceolatis inciso-dentatis, stipite squamis marginatis paleaceo, rachibus villoso-squamosis. *Kaulf.—Sw. Syn. Fil. p.* 33, *et* 254. *Schkuhr, Fil. t.* 43. *Willd. Sp. Pl. v.* 5. *p.* 261. *Kaulf. Syn. Fil. p.* 241. *Spreng. Syst. Veget. v.* 4. *p.* 105.—Polypodium vestitum. *Forst. Prodr. p.* 82.

Hab. Conception.

4. BLECHNUM. *Linn.*

1. *B. hastatum;* frondibus pinnatis, pinnis sterilibus oblongo-lanceolatis cordato-hastatis subtus villosis, fertilibus lineari-lanceolatis auriculato-cordatis, auriculis mucronatis, soris interruptis superiarum pinnarum continuis. *Kaulf. Syn. Fil. p.* 161.

Hab. Conception.

5. PTERIS. *Linn.*

1. *P. Chilensis;* fronde bi-inferne-tripinnata, pinnis lanceolatis profunde pinnatifidis, laciniis lineari-oblongis remotis obtusis glabris, stipite rachique glabris, involucris latissimis margine fimbriatis.—*Desv. Mag. Nat. Ber.* 1811. *p.* 325. *Spreng. Syst. Veget. v.* 4. *p.* 79.

6. ADIANTUM. *Linn.*

1. *A. Chilense;* fronde tripinnata, pinnulis breviter petiolatis subrigidis reniformi-cuneatis radiatim venosis crenatis demum glabris, involucris transversim oblongis approximatis, stipite rachique nitidis glaberrimis.—*Kaulf. Enum. Fil. p.* 207. *Spreng. Syst. Veget. v.* 4. *p.* 214. *Hook. et Grev. Ic. Fil. p.* 273.

Hab. Conception.

2. *A. scabrum;* frondibus bi-v.-tripinnatis, pinnulis orbiculari-reniformibus denticulatis subtus hirtis albo-farinosis, stipite paleaceo scabro, rachibus scaberrimis, soris subcontinuis. *Kaulf. Enum. Fil. p.* 207.

Hab. Conception.

3. *A. cuneatum;* frondibus triplicato-pinnatis, pinnulis petiolatis cuneatis membranaceis apice rotundatis laciniato-bi-trilobatis, lobis profunde lunulato-emarginatis, sinubus soriferis, involucris reniformibus.—*Langsd. et Fisch. Ic. Fil. p.* 23. *t.* 26. *Willd. Sp. Pl. v.* 5. *p.* 450. *Kaulf. Enum. Fil. p.* 206. *Hook. et Grev. Ic. Fil. p.* 30.

Hab. Conception.

7. HYMENOPHYLLUM.

1. *H. Tunbridgense. Sm. Engl. Bot. p.* 162. *Hook. in Fl. Lond. N. S. t.* 71. *Willd. Sp. Pl. v.* 5. *p.* 520.

Hab. Conception.

Ord. LXXIII. OPHIOGLOSSEÆ. *Br.*

1. OPHIOGLOSSUM.

1. *O. tuberosum;* parva, spica caulina, fronde oblongo-lanceolata reticulata in petiolum attenuata, pedunculo fronde triplo longiore, radice tuberosa.

Tuber magnitudine seminis *Pisi sativi,* subtus fibrosa. *Planta* vix digitem longa. *Frons* uncialis. *Spica* parva, lineari-oblonga.

Hab. Conception.

Ord. LXXIV. MUSCI.

1. LEPTOSTOMUM? *Br.*

1. *L.? splachnoideum;* caulibus cæspitosis brevibus, foliis densissime imbricatis erectis oblongis acutis concavis minute reticulatis nervosis piliferis, seta caule subæque longa, capsula cum apophysi rotundata ovata obtusa, operculo brevi-hæmispherico subumbonato.

Hab. Conception.—The specimens of this are few, and in an indifferent state. The leaves are like those of *Leptostomum,* (Br.) and the capsule resembles that of *Splachnum sphæricum,* but we are unable to find any peristome.

2. POLYTRICHUM. *Linn.*

1. *P. canaliculatum;* caule brevi, foliis linearibus acuminatis rigidis incurvis siccitate tortis marginibus scariosis integerrimis incurvis nervo lato lamellato, capsula suburceolato-cylindracea, operculo longe rostrato.

HAB. Conception.

ORD. LXXV. HEPATICÆ.

1. JUNGERMANNIA.

1. *J. platyphylla. Linn.—Hook. Brit. Jung. t.* 40.

HAB. Conception.

ORD. LXXVI. ALGÆ.

1. CONFERVA. *Linn.*

1. *C. Linum. Roth.—Ag. Syst. Alg. p.* 97. *Engl. Bot. t.* 2363.

2. MYCINEMA. *Ag.*

1. *M.? flava;* stellatim cæspitosa decumbens confluens, filis ramosis flavis, ramis elongatis secundis, capsulis secundis subglobosis sessilibus.

HAB. Conception; on the dead leaves of *Quadria heterophylla.*—This curious plant, of a yellow colour, sometimes tinged with green, covers old leaves of the *Quadria* (*Gevuia avellana,* Mol.) with dense cæspitose but radiated jointless filaments. Fructifications are frequent on the upper sides of the prostrate lateral filaments.—We must confess that we are doubtful respecting the genus.

ORD. LXXVII. FUNGI.

1. DOTHIDEA. *Fries.*

1. *D. granulosa;* nuda suborbicularis planiuscula atra opaca rugosa intus concolor, cellulis immersis, ostiolis minutis numerosissimis prominulis granuliformibus.

HAB. Valparaiso; on the lower side of the leaves of *Eugenia Temu.*—This little plant forms irregular black spots on the epidermis, and has a near affinity with the *Dothidea* of the *Betula nana,* in Europe: but there the surface is shining, the cells are white, and the ostiola are larger and more prominent.

The following additional species appear to have been detected by the Expedition on its return to Chili, probably at Valparaiso, and were placed in the same packet with the Mexican Collection: on which account they were previously overlooked by us.

Page 5.—ORD. I. MAGNOLIACEÆ. 1. DRIMYS. *Forst.*—1. *D. Chilensis;* foliis oblongo-ovatis subtus glaucis, pedicellis confertis unifloris aut e pedunculo communi ortis, petalis 6–9 oblongis subobtusis. *De Cand. Prodr. v.* 1. *p.* 78. *De Less. Ic. Sel. v.* 1. *t.* 83.—HAB. Valparaiso.—This, we learn from Mr. Cruckshanks, is called *Boigue* in Chili.

Page 5.—2. *Berberis actinacantha;* spinis palmato-5-fidis margine revolutis, foliis ovatis ellipticisve brevissime petiolatis basi vix attenuatis rigidis spinoso-dentatis mucronatis junioribus integerrimis, pedunculis 4–5 subumbellatis, foliis brevioribus subcernuis, germinibus ovatis apice vix attenuatis. *Mart. in Schult. Syst. Veget. v.* 7. *p.* 12.—HAB. Valparaiso.—This plant we have lately received from Messrs. Bridges and Mathews from the same country; and from Mr. Macrae, gathered at the Baths of Collina.

Page 7.—2. *Azara dentata;* foliis ovatis serratis scabris subtus tomentosis, corymbis sessilibus paucifloris. *Don.—Ruiz et Pav. Syst. Veget. Fl. Per. v.* 1. *p.* 138. *De Cand. Prodr. v.* 1. *p.* 262. *Don, in Ed. New Phil. Journ. v.* 10. *p.* 117.—HAB. Valparaiso.—Mr. Don considers the smaller leaf to be a persistent stipule, while the other stipule is very deciduous and minute. The same Botanist gives the following character for *A. serrata;* foliis oblongis serratis lævibus, corymbis pedunculatis multifloris.

Page 7.—3. *A. integrifolia;* foliis obovatis oblongisve integerrimis glabris, stipulis cordatis subæqualibus, floribus spicatis. *Don.—Ruiz et Pav. l. c. De Cand. l. c. Don, l. c.*—HAB. Valparaiso.—We refer to Mr. Don's paper for full characters of this genus and its species: he places it in *Homalineæ,* where it seems to rank naturally next to *Pineda.* The above three species are all named *Corcolen* in Chili: but there is a fourth with reticulated leaves and a panicled inflorescence, called *Lilen,* the *A.? Lilen,* Bert. (*Lilenia,* nov. gen. *Bert. MS.*), found also at Valparaiso, which we have received from Mr. Bridges, and which appears to be the same with *A.? celastrina,* Don.

Page 15.—3. TREVOA. *Miers.*—1. *T. trinervia;* glabra, foliis ellipticis crenato-serratis trinerviis subtus concoloribus. *Gill. et Hook. in Bot. Misc. v.* 1. *p.* 159.—Colletia Trebu. *Bert. in Bull. des Sc. Nat. v.* 20. *p.* 109.—HAB. Valparaiso.

Page 16.—2. DUVOA. *Kunth.*—1. *D. dependens;* foliis lanceolato-ovatis integris aut subtrifidis, racemis folii longitudine, floribus sæpius octandris. *De Cand. Prodr. v.* 2. *p.* 74.—Amyris polygama. *Cav. Ic. v.* 3. *p.* 30. *t.* 239.—" Schinus dependens. *Orteg. Dec.* 8. *p.* 102."—S. Huingan. *Mol. Chil.*, (according to Bertero.) —HAB. Valparaiso.

Page 19.—ADESMIA.—Our *Adesmia microphylla* we have received from Mr. Mathews as the *A. arborea* of Bertero's MSS. But this plant of Bertero M. Guillemin is disposed to refer to *Zuccagnia punctata* of Cavanilles.—Our *A. angustifolia* is sent to us by Mr. Mathews, under the name of *A. vesicaria,* Bertero.—What we have spoken of as the *A. longiseta,* (p. 18.) De Cand., Mr. Mathews has given as *A. muricata.*

Page 22.—13.* COULTERIA. *Humb. et Kunth.*—1. *C. tinctoria;* foliolis glabris ovali-oblongis interdum subpuberulis, calycibus glabriusculis, leguminibus glabris sessilibus obtusis. *De Cand.*—α. petiolis primariis solummodo aculeatis.—C. tinctoria. *Humb. et Kunth, Nov. Gen. Am. v.* 6. *p.* 330. *t.* 569. *De Cand. Prodr. v.* 2. *p.* 481.—C. Chilensis. *De Cand. Prodr. v.* 2. *p.* 481.—Cæsalpinia pectinata. *Cav. Præl.*—Tara tinctoria. *Molina.*—β. petiolis omnibus petiolulisque basi aculeatis.—Poinciana spinosa. *Feuill. Chil. v.* 2. *t.* 39.—Coulteria horrida. *Humb. et Kunth, Nov. Gen. Am. v.* 6. *p.* 327. *t.* 568.—HAB. Valparaiso: but probably from the gardens there, in which, Mr. Bridges informs us, it is cultivated under the name of *Tara.*—To us it appears that this plant is exclusively a native of Peru, and we can scarcely doubt that the two species described by Humboldt are mere varieties, differing only in the more or less abundant aculei on the leaf-stalks.* Both are used in dyeing, and from their beauty, are amply deserving of cultivation. Feuillée was in the habit of making a beautiful and very black ink from this plant, by infusing the pods with a little alum in water for a night, and afterwards boiling them.

Page 22.—*Cassia frondosa.* The Coquimbo specimens in the Collection, and others that we have received from the same spot, gathered by Mr. Bridges, have the leaves more or less hairy on the nerves, and remarkably ciliated at the margin, and of a less firm texture than those from Valparaiso, which we have from other travellers, and which appears to us to be the true *frondosa.*

Page 23.—2. *Fuchsia rosea;* caule minute tuberculato, foliis ovato-ellipticis integerrimis petiolatis fasciculatis, pedunculis axillaribus subaggregatis, calycis infundibuliformis laciniis reflexis corolla duplo longioribus, staminibus subinclusis. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 88. *De Cand. Prodr. v.* 3. *p.* 39.—F. lycioides. *Andr. Bot. Rep. t.* 120. *Bot. Mag. t.* 1024. Lun, *Feuill. Chil. v.* 3. *t.* 24.—HAB. Valparaiso.—It is strange that no

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* In the specimens of the Collection, the leaflets are all aculeated at the base; in those we possess from Mr. Bridges, the aculei are confined to the base of the primary petioles.

Botanist should recognize this as the *Fuchsia rosea* of Ruiz and Pavon, which those authors declare to be found in rocky places about Valparaiso, and still more strange that both Andrews and Sir J. E. Smith should give it as an inhabitant of the North-West coast of America. It was long ago introduced to our gardens by Mr. Menzies from the coast of Chili.

Page 23.—Ord. XXIII. MYRTACEÆ. *Juss.*—1. *Eugenia Cheken;* pedunculis axillaribus sub 1-floris solitariis folio longioribus, sub flore bracteolis 2 minutis linearibus deciduis, foliis glabris densissimis ovalibus utrinque acutis brevissime petiolatis obsolete parallelim nervosis pelucido-punctatis, segmentis calycinis obtusissimis.—E. Cheken. *Mol. Chil.*—*De Cand. Prodr. v.* 3. *p.* 278.—*Feuill. Chil. v.* 3. *t.* 32.—Hab. Valparaiso.—This we have also received from Mr. Cruckshanks and Mr. Bridges, but without the vernacular name; nevertheless it accords so well with the *Cheken* of Feuillée, that we have little doubt of its being his plant. When the upper leaves fall off, the peduncles appear to be terminal and corymbose, as in that author's figure.

Page 23.—2. *E. Temu;* paniculis axillaribus plerumque solitariis subcorymbosis paucifloris longitudine fere foliorum, foliis ellipticis obovatisve obtusissimis coriaceis subtus pallidis (junioribus ramulisque subvelutinis) brevissime petiolatis.—Hab. Valparaiso.—This we have received from Messrs. Cruckshanks and Mathews, both of whom affirm it to be the *Temu* of Chili; but it cannot be the *Temus moschata* of Molina, which he considers the *Temu* of the country, but which, from his description, authors have arranged with the *Magnoliaceæ,* and near to *Drimys.*—Our plant has quadrifid flowers, and is a true *Eugenia,* but it may perhaps be the *Myrtus Luma* of Molina and Sprengel, which De Candolle with doubt refers to his *Myrtus multiflora.*

Page 25.—Ord. XXIX.* SAXIFRAGEÆ.—1. Escallonia.—1. *E. rubra;* ramulis glanduloso-pubescentibus, foliis obovato-lanceolatis acutis, basi in petiolum attenuatis duplicato-serratis inferne glandulosis subtus resinoso-punctatis, pedunculis in axillis foliorum terminalium simplicibus vel ramosis bracteolatis, floribus cylindraceis. *Pers.*—*Hook. in Bot. Mag. t.* 2890. *De Cand. Prodr. v.* 4. *p.* 3.—Escallonia Poppigiana. *De Cand. l. c.*—Stereoxylon rubrum. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 236. b.—Hab. Valparaiso.—This appears to be frequent in Chili, and liable to much variation in the shape of the leaves, in the simple or branched peduncles, in the breadth, &c. of the calycine segments, and in the pubescence and glands: hence we have been led to unite with it the *E. Poppigianum* of De Candolle, which is indeed the *E. rubra* of Pöppig himself.

Page 25.—2. *E. revoluta;* tota hirsuta, ramis erectis hirsutissimis adultis glabratis, foliis obovatis denticulatis revolutis, racemo thyrsoideo, calycis dentibus subulatis, petalis lineari-spathulatis. *DC.*—*Pers. Syn. Pl. v.* 1. *p.* 235. *De Cand. Prodr. v.* 4. *p.* 5.—Stereoxylon revolutum. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 236. b.—Hab. Valparaiso.

Page 25.—3. *E. pulverulenta;* tota hirsuta, ramis subtrigonis erectis, foliis ellipticis obtusis breve petiolatis serrulatis superne junioribus subviscosis, racemo terminali spicæformi erecto, calycis dentibus patulis, petalis obovatis.—*Pers. Syn. Pl. v.* 1. *p.* 235. *De Cand. Prodr. v.* 4. *p.* 5.—Stereoxylon pulverulentum. *Ruiz et Pav. Fl. Per. v.* 3. *t.* 237. a.—Hab. Valparaiso.

Page 25.—2.* *Loranthus heterophyllus;* (parasiticus,) ramis teretibus teneris scabris ferrugineis, foliis sparsis breve petiolatis cordatis ovalibusve mucronatis coriaceis glabris, racemis terminalibus et axillaribus angulatis ramulis brevibus trifloris, flore medio sessili lateralibus pedicellatis, bracteis minimis, petalis 6 lineari-spathulatis, antheris incumbentibus. *DC.*—*Ruiz et Pav. Fl. Per. v.* 3. *p.* 48. *t.* 273. b. *De Cand. Prodr. v.* 4. *p.* 312.—Hab. Valparaiso.

Page 25.—2. *L. Cactorum.* We have recently ascertained that the plant which we have thus named at p. 25, is the *L. aphyllus* of Miers, in Bull. des Sc. Nat. v. 19. p. 319, and of De Candolle, Prodr. v. 4. p. 307.

Page 26.—6.* Ammi. *Linn.*—1. *A. Visnaga. Lam.*—*De Cand. Prodr. v.* 4. *p.* 113.—Daucus Visnaga. *Jacq. Hort. Vind. v.* 3. *t.* 26.—Hab. Valparaiso.

Page 26.—*Osmorhiza chilense.* This appears to be the *O. Berterii* of De Cand. Prodr. v. 4. p. 232, which name is of course to be preferred. It is also the *Scandix chilensis* of Molina and De Candolle.

Page 28.—2. *Proustia pyrifolia;* foliis petiolatis cordato-rotundatis ovalibusve subtus tomentosis, acheniis pilosis. *Don.—Lag. et De Cand. in Ann. du Mus. v.* 19. *p.* 70. *t.* 4. *Don in Linn. Trans. v.* 16. *p.* 198.—Hab. Valparaiso.

Page 29.—2. *Eupatorium ageratoides? Linn.—Spreng. Syst. Veget. v.* 3. *p.* 419.—Hab. Valparaiso.—The present plant may perhaps be a distinct species, having the stems shrubby at the base, the leaves smaller and more irregularly toothed.

Page 30.—9.* Spilanthes.—1. *S. oleracea. Linn.—Spreng. Syst. Veget. v.* 3. *p.* 444.—Hab. Valparaiso.—We may here remark that the *Eupatorium Chilense* is the *Flaveria Contrayerva* of Persoon, (Feuill. v. 3. t. 14.)

Page 30.—11.* Euxenia.—1. *E. grata. Cham. in Hor. Phys. Ber. p.* 75. *t.* 16.—Ogiera triplinervia. *Spreng. Syst. Veget. v.* 3. *p.* 674. (not of *Cassini.*)—Hab. Conception.—The plant of Cassini appears identical with *Eleutheranthera ovalifolia,* Poit., from St. Domingo, and is herbaceous.

Page 30.—2. *Baccharis linearis;* foliis linearibus dentatis integerrimisque, floribus subcorymbosis. *Spr. —Pers. Syn. Pl. v.* 2. *p.* 425. *Spreng. Syst. Veget. v.* 3. *p.* 463.—Hab. Valparaiso.—This has the leaves much larger and longer than in *B. rosmarinifolia,* and they are, in general, decidedly toothed.

Page 31.—6. *Baccharis rigida;* caule fruticoso ramoso, foliis coriaceis rigidis ovali-ellipticis sessilibus venosis spinoso-dentatis, paniculis corymbosis.—Hab. Valparaiso.—This we have received also from Mr. Cruckshanks and Mr. Bridges.

Page 31.—7. *Baccharis absinthioides;* caule erecto herbaceo ramoso angulato foliisque lanceolatis acutis in petiolum attenuatis integerrimis vel grosse remote dentato-serratis incanis, corymbis multifloris, floribus congestis, pedunculis incano-tomentosis.—α. foliis longioribus subintegerrimis.—β. foliis omnibus dentato-serratis.—Hab. α. Conception. β. Valparaiso. (Mr. Bridges.)—Leaves often fascicled, 3–4 inches long; under the microscope exhibiting minute yellow dots. Mr. Bridges states it to be from 6–8 feet high.

Page 31.—14.* Conyza. *Linn.*—1. *C. ambigua. De Cand. Fl. Fr. ed.* 4. *v.* 5. *p.* 468.—C. Chilensis. *Spreng. Syst. Veget. v.* 3. *p.* 513.—Erigeron linifolium. *Willd.*

Page 32.—5. *Senecio Bridgesii;* suffruticosus, glaber, foliis sessilibus pinnatifidis laciniis linearibus acutis, corymbo denso multifloro, involucris subcylindraceis, foliolis uniserialibus apice vix sphacelatis basi bracteolatis, radio patente.—Hab. Valparaiso; whence we have also had it from Mr. Bridges.—It is nearly allied to *S. artemisiifolius,* but that is herbaceous, and has bipinnatifid leaves.

Page 32.—17.* Madia. *Mol.*—1. *M. viscosa. Cav. Ic. v.* 3. *p.* 50. *t.* 298. *Curt. in Bot. Mag. t.* 2574.—M. mellosa. *Mol.—Jacq.*—M. sativa. *Mol.—Spr.*—Madi, *Feuill. Chil. v.* 3. *t.* 26.—Hab. Valparaiso.

Page 32.—*Helianthus glutinosus.*—We have since ascertained that the plant so called at p. 32, is the *H. thurifer* of Molina, whose name ought therefore to be preferred.

Page 32.—18.* Xanthium. *Linn.*—1. *X. spinosum. Linn.*—Hab. Valparaiso.—May not the *X. catharticum* of Kunth, from Peru, be the same?

Page 33.—Ord. XXXIV.* CAMPANULACEÆ. *Juss.*—1. Wahlenbergia. *Schrad.*—1. *W. linarioides;* caule erecto basi simplici glabro vel scabriusculo, foliis lineari-acuminatis angustis glabris subdenticulatis, calycis tubo glabro obconico, corolla infundibuliformi profunde 5-fida laciniis calycinis dimidio longiore, capsula obconica. *Alph. De Cand. Campan. p.* 158.—Campanula Chilensis. *Mol.*—C. linarioides. *Lam.*—Hab. Valparaiso.

Page 36.—4. *Solanum tuberosum. Linn.*—Hab. Valparaiso.

Page 37.—6. Nicotiana. *Linn.*—1. *N. acuminata;* herbacea, pubescens, foliis lato-lanceolatis acuminatis undulatis sublonge petiolatis, paniculis paucifloris, calyce glanduloso-pubescente laciniis angustis, corollæ tubo elongato, limbi laciniis rotundatis obtusis.—*Bot. Mag. t.* 2919.—Petunia acuminata. *Graham in Edin. Phil. Journ. July,* 1828. *p.* 378.—Nicotiana angustifolia? *Ruiz et Pav. Fl. Per. v.* 2. *t.* 130.—Hab. Valparaiso.—Upon comparing our plant with the *N. angustifolia,* Ruiz and Pav., we can scarcely discover any difference.

Page 41.—*Sphacele campanulata.*—We have already, under this plant, referred, as a synonym, to the *Algue Laguen* of Feuill. Chil. v. 3. t. 1, which is also the authority for the *Phytoxys acidissima* of Molina and Sprengel, a name which has the right of priority.

Page 41.—1.* MENTHA. *Linn.*—1. *M. Pulegium. Linn.*—Polco, *Feuill. Chil. v.* 3. *t.* 28.—HAB. Valparaiso.

Page 41.—3.* GARDOQUIA. *Ruiz et Pav.*—1. *G. Chilensis;* foliis lanceolato-oblongis integerrimis, pedunculis multifloris. *Benth. MSS.*—HAB. Valparaiso.

Page 41.—*Teucrium orchideum.*—We now believe this to be the *Teucrium heterophyllum* of Cav. Ic. v. 6. t. 577, not of Lam., and the *T. bicolor* of Smith in Rees' Cycl., which latter name ought to be retained.

Page 42.—1.* *Verbena intermedia;* aspera, caule acute tetragono, foliis lanceolatis acutis sessilibus subconnatis villosis grosse serratis, spicis breviusculis, corolla calycem cylindraceam plusquam duplo superante. *Gill. et Hook. in Bot. Misc. v.* 1. *p.* 166.

Page 42.—2. CITHAREXYLON. *Linn.*—1. *C. cyanocarpum;* spinis axillaribus, ramis teretibus pubescentibus, foliis ovatis cordatisve mucronulatis coriaceis glabris nitidis subtus punctis impressis, pedunculis axillaribus 1–3-floris. (TAB. XI.) Poppigia cyanocarpa. *Bert. in Bull. des Sc. Nat.* 1830. *Oct.* 109.

Frutex ramosus plerumque spinosus, spinis (ramis abortivis) axillaribus nunc parvis nunc validis, unciam ad 2 uncias longis. *Rami* teretes, *juniores* subangulati pubescentes. *Folia* opposita, pollicaria, coriacea, lato-ovata vel cordata, sessilia, acuta, plerumque mucronulata, integerrima, supra glabra, lævia, parallelim impresso-nervosa, costa solummodo pubescente, subtus pallidiora, glabra, reticulatim venosa, venis prominentibus sub lente punctis impressis notata. *Pedunculi* axillares, breves, bi-triflori. *Calyx* ovatus, glaber, 5-dentatus. *Corolla* unciam ad sesquiunciam longa, infundibuliformis, limbo quinquefido, lobis ovatis obtusis patentibus, intus pubescentibus. *Stamina* 4, didynama, tubo corollæ inserta, inclusa. *Antheræ* ovatæ, obtusæ. *Pistillum: Germen* ovatum. *Stylus* filiformis, tubi corollæ longitudine. *Stigma* bilobum. *Fructus: Drupa* subsicca, magnitudine seminis *Pisi sativi*, calyce persistente tecta, et basi styli coronata, demum in 2 nuces hemisphæricas separabilis. *Nuces* dispermæ. *Semina* oblongo-ovata.

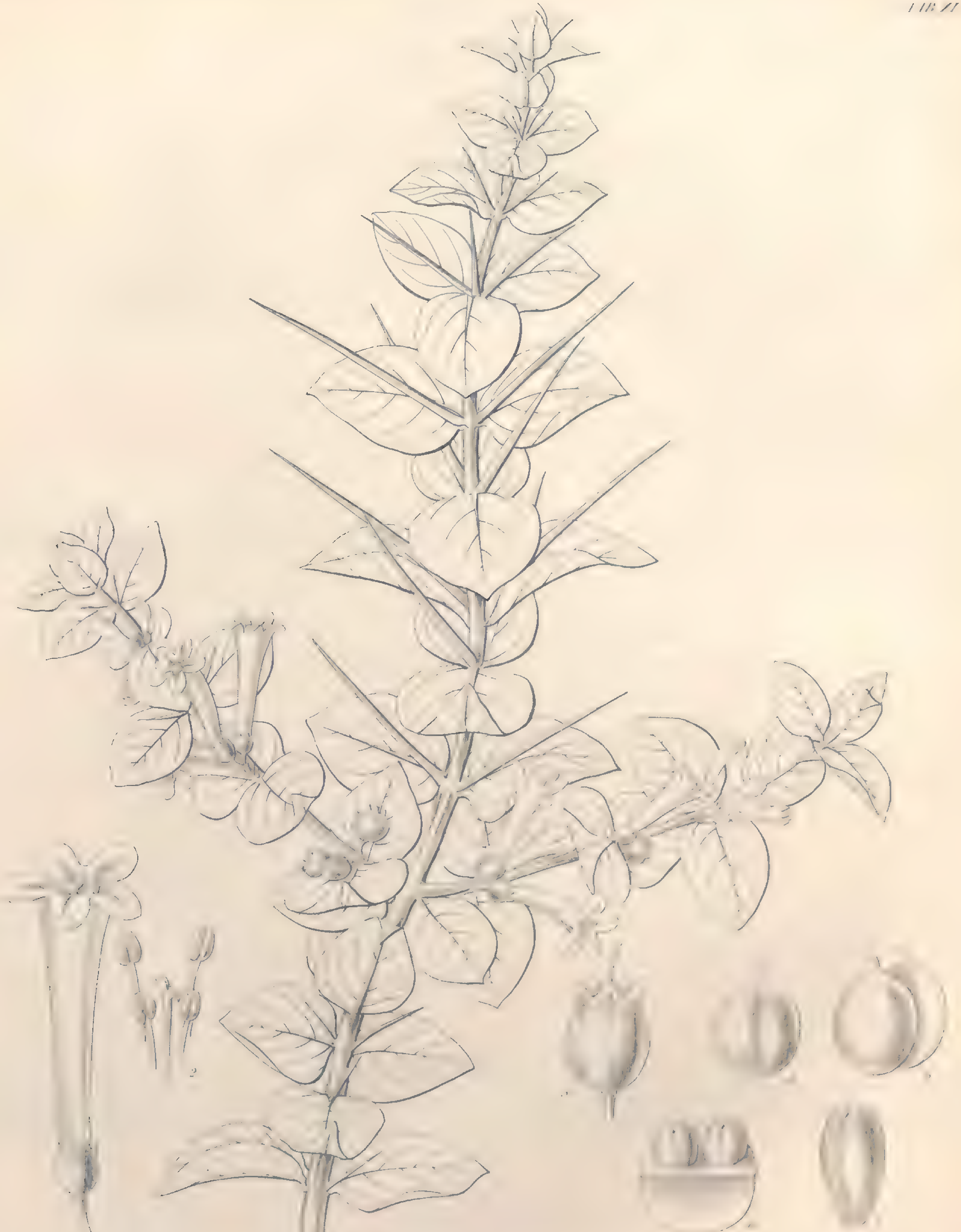
HAB. Valparaiso.—This plant we long ago received from Mr. Cruckshanks, and since from Mr. Mathews and Mr. Bridges; as well as from Mrs. Graham and Dr. Bertero, who find it at Juan Fernandez; from the latter gentleman, under the appellation of *Poppigia cyanocarpa, MSS.*, a name we should gladly have adopted, but that the genus seems scarcely to differ from *Citharexylon.* The corolla and fruit are the same in both genera: the anthers are ovate, as figured in *Rauwolfia flexuosa,* (Ruiz and Pav. Fl. Per. t. 152, which Mr. Don considers a true *Citharexylon,*) not linear, as described in *Citharexylon* of Mr. Don: the stigma is 2-lobed, and the inflorescence can scarcely be called racemed. We do not indeed find the petioles to be "callous at the base, and evidently jointed." The leaves are dotted on the underside, as in the *Myrtaceæ.* It is named in the country *Arayan de Espino,* and *Arayan macho.*—TAB. XI. *Fig.* 1, Flower; *fig.* 2, Stamens and stigma; *fig.* 3, Fruit, enclosed in the calyx; *fig.* 4, Fruit removed from the calyx; *fig.* 5, The two nuts into which the fruit separates; *fig.* 6, Nut cut open to show the 2 seeds; *fig.* 7, Seed:—all more or less *magnified.*

Page 43.—ORD. LV.* AMARANTHACEÆ. *Juss.*—1. *A. viridis. Linn.*—HAB. Valparaiso.

Page 44.—2. *Chenopodium multifidum;* foliis pinnatifidis laciniis linearibus, inferioribus subdentatis, glomerulis florum axillaribus sessilibus. *Willd. Enum.*—*Rœm. et Sch. v.* 6. *p.* 260.—*Dill. Elth. p.* 78. *t.* 66. *f.* 77.—HAB. Valparaiso.

Page 44.—ORD. LVI.* LAURINEÆ. *Juss.*—1. LAURUS. *Linn.*—1. *L. Peumo.*—HAB. Valparaiso.—The specimen in the Collection, as well as that from Macrae, noticed at p. 45, is destitute of flower, and in a very imperfect state; so that we are not able to offer any further remarks upon it.

Page 45.—3. COLLIGUAJA. *Mol.*—1. *C. odorifera;* foliis elliptico-lanceolatis obtusis mucronatis pulcherrime glanduloso-serratis, capsula triangulari tricocca angulis obtusis.—*Mol. Chil.*—*Hook. in Bot. Misc. v.* 1.



Phaeoxylon cyanocarpum

p. 142. *t.* 40.—Croton Colliguay. *Spreng. Syst. Veget. v.* 3. *p.* 875.—Adenopeltis Colliguaja. *Bert. Bull. des Sc. Nat. v.* 21. *p.* 128, *et in Herb. nostr.*—Hab. Valparaiso.

Page 45.—Ord. LXI.* MONIMIEÆ. *Juss.*—1. Boldoa. *Juss.*—1. *B. fragrans. Juss. in Ann. du Mus.* 14. *p.* 134.—Ruizia. *Ruiz et Pav. Fl. Per. v.* 4. *t.* 29.—Peumus fragrans. *Pers.*—Boldu. *Feuill. Chil. v.* 3. *t.* 6.—Hab. Valparaiso.—We have already offered some remarks on this plant at p. 45 of the present work.

SOCIETY ISLANDS.

[Including Easter, Ducie's, Elizabeth, Pitcairn, and Gambier's Islands; those denominated "Coral Islands" at page 1, of this Volume; and Otaheite, or Tahiti. They were visited at the periods there stated.*]

Ord. I. CRUCIFERÆ. *Juss.*

1. Cardamine *sarmentosa;* foliis petiolatis glabris pinnatisectis, segmentis 5 ovatis inferne dentatis infimis petiolulatis, caule subnudo basi flagellifero, siliquis patentibus. *DC.*—"*Forst. Fl. App. p.* 92. *n.* 529." *De Cand. Prodr. v.* 1. *p.* 153.

1. Lepidium *piscidium;* siliculis oblongo-obovatis (seu obovatis) emarginatis, stigmate exserto, foliis ovali-oblongis extrorsum dentatis integerrimisve. *DC.*—"*Forst. Prodr. n.* 249." *De Cand. Prodr. v.* 1. *p.* 206.

The pouch in our specimens is broader than that described by De Candolle, in this respect approaching that of *L. O-Waihiense,* but the style is very conspicuous.

Ord. II. CAPPARIDEÆ. *Juss.*

1. Gynandropsis *pentaphylla. De Cand. Prodr. v.* 1. *p.* 238.—Cleome pentaphylla. *Bot. Mag. t.* 1681.

1. Cratæva *religiosa;* staminibus 20–28 toro annulari insertis petalorum longitudine, bacca ovali, foliis lanceolato-ellipticis acutis. *DC.*—"*Forst. Prodr. n.* 203." *De Cand. Prodr. v.* 1. *p.* 243.

Hab. Gambier's Island.

1. Capparis *Sandwichiana;* inermis, foliis ellipticis glabriusculis, limbo petiolo vix triplo longiore, pedicellis solitariis unifloris foliorum longitudine. *De Cand. Prodr. v.* 1. *p.* 245.

This appears scarcely different from the *C. spinosa:* nor does the *C. Mariana* seem to us deserving of the rank of a species.

Ord. III. MALVACEÆ. *Juss.*

1. Urena *lobata. Linn.*—*De Cand. Prodr. v.* 1. *p.* 441. *Bot. Mag. t.* 3043.

1. Hibiscus *Manihot. Linn.*—*Bot. Mag. t.* 1702. *De Cand. Prodr. v.* 1. *p.* 458.

2. Hibiscus *rosa-sinensis. Linn.*—*Bot. Mag. t.* 158. *De Cand. Prodr. v.* 1. *p.* 448.

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* As many of the plants of these Islands appear common to the whole groupe, we have rarely thought it necessary to mention the particular stations of the species.

3. Hibiscus *tricuspis;* foliis incanis trilobis lobis lanceolatis subdentatis, pedunculis axillaribus subbifloris terminalibus subracemosis, involucello novem-dentato. *DC.—Cav. Diss. 3. t. 55. f. 2. De Cand. Prodr. v. 1. p. 453.*

4. Hibiscus *tiliaceus. Linn.—Cav. Diss. 3. t. 55. f. 1. De Cand. Prodr. v. 1. p. 454.*

1. Thespesia *populnea. Corr.—De Cand. Prodr. v. 1. p. 456.*—Hibiscus populneus. *Linn.—Rumph. Amb. v. 2. t. 74.*

1. Gossypium *Barbadense. Linn.—Bot. Reg. t. 84. De Cand. Prodr. v. 1. p. 456.*

This agrees with the figure above quoted in all but the presence of glands on the underside of the primary nerves of the leaf; but Dr. Hamilton in Linn. Trans. v. 13. p. 492, states it as his opinion, that such a character is not to be depended on; and that *that* derived even from the duration of the stem is of no consequence. This belongs to his *G. nigrum,* "lana alba, semine nigricante," which includes the *G. Barbadense* of Linn.

1. Sida *rhombifolia. Linn.—Cav. Diss. 1. t. 3. f. 12. De Cand. Prodr. v. 1. p. 462.*

2. Sida *periplocifolia. Linn.—Cav. Diss. 1. t. 5. f. 2. De Cand. Prodr. v. 1. p. 467.*

ORD. IV. BYTTNERIACEÆ. *Br.*

1. Melochia *hispida;* tota hispida, foliis inæquilateris cordato-ovatis duplicato-serratis utrinque pilis stellatis subtus pallidis, umbellis 6–8-floris axillaribus petiolum subæquantibus.

The hairs on the stem, petiole, and peduncles, are long, spreading, and simple, though occasionally mixed with others that are shorter and stellated. Those on the leaves are altogether of the latter kind. Towards the apex of the petiole the hairs are short and much crowded, and of a yellow colour; and this portion falls off with the leaf. The calyx is glabrous, except on the margin of the segments and the line marking the union of the sepals, where the hairs are very long. We have been obliged to draw up our description from a solitary and indifferent specimen.

1. Commersonia *echinata;* caule arboreo, foliis ovato-lanceolatis superne glabriusculis subtus canescentibus. *DC.—Forst. Gen. p. 43. t. 22. De Cand. Prodr. v. 1. p. 487.—Rumph. Amb. v. 3. t. 119.*

1. Waltheria *Americana. Linn.—De Cand. Prodr. v. 1. p. 492.*—W. indica. *Jacq. Ic. Rar. v. 1. t. 130.*

ORD. V. TILIACEÆ. *Juss.*

1. Triumfetta *procumbens;* prostrata, caule pubescenti-tomentoso, foliis cordato-rotundatis subintegris trilobisve obtusissimis crenatis supra glabriusculis subtus stellato-pannosis, petalis calyce tomentoso vix longioribus, carpellis arcte coalitis in capsulam globosam, setis muricatis plumosis.—"*Forst. Prodr. n. 204.*" *De Cand. Prodr. v. 1. p. 508.*

This plant, which we take to be the *T. procumbens* of Forster, has petals to the flower as well as united carpels, whence it cannot belong to either of the divisions of the genus in De Candolle's Prodromus. The united fruit is nearly as large as an hasel nut, covered with rigid and hairy or plumose bristles. (Sec. descr.—tab. a nobis non visa.) *T. Fabriana. Gaud. in Freyc. Voy. p. 478. t. 102.*

1. Grewia *Mallococca;* foliis cordatis ovato-oblongis crenatis scabris, pedicellis axillaribus trifloris. *DC. Linn.—De Cand. Prodr. v. 1. p. 509.*—G. crenata. *Forst. Gen. t. 39.*

ORD. VI. GUTTIFERÆ. *Juss.*

1. Calophyllum *Inophyllum. Linn.—De Cand. Prodr. v. 1. p. 562. Rumph. Amb. 2. t. 71. Rheede, Mal. v. 4. t. 38.*

ORD. VII. SAPINDACEÆ. *Juss.*

1. Cardiospermum *Halicacubum. Linn.—Bot. Mag. t.* 1049. *De Cand. Prodr. v.* 1. *p.* 601.

1. Aporetica *pinnata;* foliis pinnatis, racemo supradecomposito terminali. *Forst. Gen. t.* 66. *De Cand. Prodr. v.* 1. *p.* 610.

1. Dodonæa *viscosa. Linn.—De Cand. Prodr. v.* 1. *p.* 616.—D. spathulata. *Sm. in Rees' Cycl. De Cand.*

ORD. VIII. OXALIDEÆ. *Juss.*

1. O. *corniculata. Linn.—Engl. Bot. t.* 1726. *De Cand. Prodr. v.* 1. *p.* 692.

ORD. IX. CELASTRINEÆ. *Br.*

1. Celastrus *crenatus;* foliis ovatis crenatis, cymis axillaribus. *DC.*—" *Forst. Prodr. n.* 113." *De Cand. Prodr. v.* 2. *p.* 7.

We regret that the imperfect condition of our specimens will not allow us to offer any remarks upon this little known plant.

ORD. X. RHAMNEÆ. *Juss.*

1. Pomaderris *ziziphoides;* foliis oblongo-lanceolatis integerrimis coriaceis supra glabris nitidis subtus reticulatis incano-tomentosis, venis rufidulis, ramulis foliisque junioribus dense ferrugineo-pubescentibus, petalis calycem æquantibus.—Rhamnus ziziphoides. *Spr.—De Cand. Prodr. v.* 2. *p.* 27.

Folia 3–4 uncias longa, supra (siccitate) intense fusca, nitida, parallelim oblique venosa, subtus inter venas reticulata. *Flores* mediocres in corymbis axillaribus folio brevioribus. *Calyx* extus tomentosus: *tubus* ovario truncato adherens. *Stylus* bifidus, ad basin villosus. *Fructus* baccatus, ater, magnitudine seminis *Pisi sativi. Cocci* et *Semina* omnino ut in *Pomaderrideæ.*

This was on the same paper with *Commersonia echinata*, and is probably therefore a native of Tahiti. It seems to be the *Rhamnus ziziphoides* of Sprengel; but its character, and its habit too, accord best with *Pomaderris.*

1. Ceanothus *Asiaticus. Linn.—Cav. Ic. v.* 5. *t.* 440. *f.* 1. *De Cand. Prodr. v.* 2. *p.* 30. —Celastrus capsularis. " *Forst. Prodr. n.* 112." *De Cand. Prodr. v.* 2. *p.* 32.—Colubrina Asiatica. *Brong.*

Brongniart is of the same opinion with ourselves, that the *Celastrus capsularis* of Forster is identical with the *Ceanothus Asiaticus* of Linnæus.

1. Gouania *Domingensis. Linn.—De Cand. Prodr. v.* 2. *p.* 39.—G. glabra. *Jacq. Am. t.* 179. *f.* 40.

ORD. XI. SAMYDEÆ. *Gærtn.*

1. Casearia *impunctata;* foliis oblongo-ellipticis breve petiolatis coriaceis basi apiceque acutis obsolete dentatis glabris nitidis impunctatis, pedunculis brevibus glomeratis axillaribus, calyce 5-partito, stam. fertilibus 10, stylo elongato, stigmatibus tribus capitatis.

Of this only one specimen exists in the Collection, whose flowers agree with those of *Casearia*, but the pellucid dots in the leaves, alluded to by Mr. Brown as characteristic of the Order *Samydeæ*, do not appear. The stigmas are very distinct and capitate.

ORD. XII. TEREBINTHACEÆ. *Juss.*

1. Suriana *maritima. Linn.—De Cand. Prodr. v.* 2. *p.* 91.

ORD. XIII. LEGUMINOSÆ. *Juss.*

1. Sophora *tomentosa. Linn.—De Cand. Prodr. v.* 2. *p.* 95.—*Sloane, Jam. v.* 2. *t.* 178. *f.* 3.

1. Tephrosia *piscatoria;* foliolis 5–6-jugis oblongis obtusis subtus pilosiusculis, stipulis subulatis, pedunculis ancipitibus, leguminibus strictis ascendentibus subvillosis. *DC.—Pers. Syn. Pl. v.* 2. *p.* 329. *De Cand. Prodr. v.* 2. *p.* 252.—Galega littoralis. "*Forst. Prodr. n.* 277."—G. piscatoria. *Ait.*

1. Desmodium *purpureum;* caule erecto terete subsimplice appresso-pubescente, foliolis ternis obovatis subellipticisve obtusis venosis glabriusculis, stipulis subulato-acuminatis, racemis lanceolatis sublonge pedunculatis axillaribus, bracteis lanceolato-acuminatissimis ciliatis, articulis 5–6 subquadratis margine hinc convexis reticulatis hirsuto-scabris.—Hedysarum purpureum. *Roxb. Cat. Hort. Beng. p.* 57. et in *Herb. nostr.*

We are satisfied of this plant being the *Hedysarum purpureum* of Roxb., which, however, we do not find any where described. The same plant, too, we have received from the Island of St. Vincent in the West Indies, probably introduced from the Old World.—The figure in Burm. Zeyl. t. 53. f. 2, and again that in Burm. Ind. t. 55. f. 2, (*H. siliquosum,* Burm.) appear to be the same as this; but we do not know that they are referred to by any author.

2. Desmodium *Scorpiurus. Desv.—De Cand. Prodr. v.* 2. *p.* 333.—Hedysarum Scorpiurus. *Sw.*

1. Abrus *precatorius. Linn.—De Cand. Prodr. v* 2. *p.* 381.

1. Dolichos *luteus? Sw.—De Cand. Prodr. v.* 2. *p.* 398.

1. Erythrina *indica. Lam.—De Cand. Prodr. v.* 2. *p.* 412.

1. Cajanus *flavus. De Cand. Prodr. v.* 2. *p.* 406.—Cytisus Cajan. *Linn.*

1. Cassia *occidentalis. Linn.—De Cand. Prodr. v.* 2. *p.* 497.

ORD. XIV. LYTHRARIÆ. *Juss.*

1. Cuphea *Parsonia. Br.—De Cand. Prodr. v.* 3. *p.* 86. *Brown, Jam. t.* 21. *f.* 1.

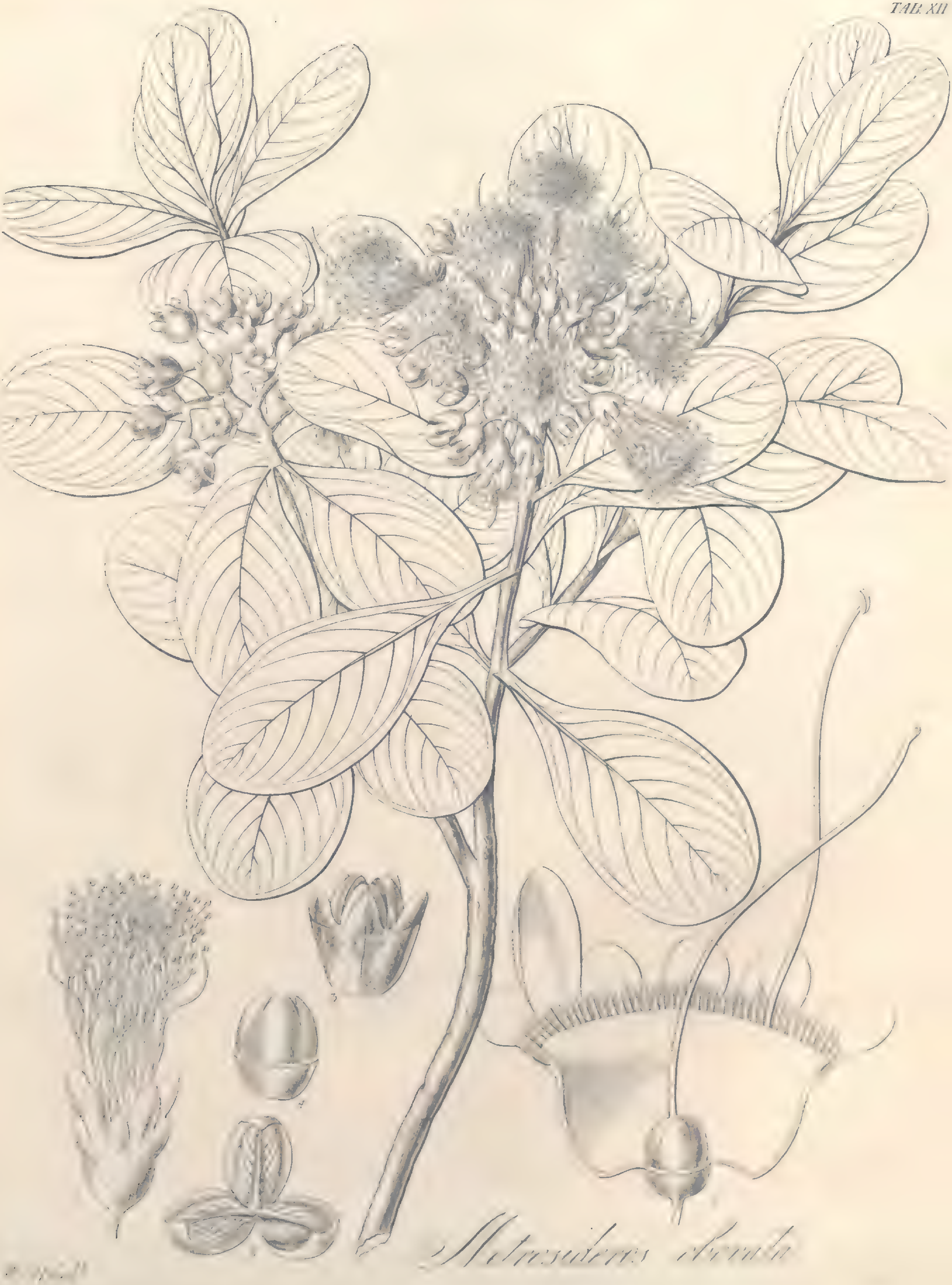
ORD. XV. MELASTOMACEÆ. *Juss.*

1. Melastoma *Taitense;* fruticosum, ramulis tetragonis petiolisque strigoso-asperis, foliis petiolatis ovali-oblongis acuminatis subdenticulatis præter nervulos 2 marginales trinerviis supra setoso-scabris subtus in nervis strigillosis, corymbis paucifloris, calyce setis crassis scabro, lobis 5 oblongis deciduis. *De Cand. Prodr. v.* 3. *p.* 144.

Our specimens also are from Tahiti, but in a very indifferent state of preservation.

ORD. XVI. MYRTACEÆ. *Juss.*

1. Jossinia *cotinifolia? De Cand. Prodr. v.* 3. *p.* 238.—Eugenia cotinifolia. *Jacq. Obs.* 3. *t.* 53.



Metrosideros [illegible]

We have quoted this with a mark of doubt, because all the *Jossiniæ* are stated to be natives of the Isles of France and Bourbon: at the same time, our specimens so entirely accord with Jacquin's figure, that we consider it almost certain that our plant is the same as his.

1. Metrosideros *villosa;* foliis oppositis ovatis venosis subtus pubescentibus, thyrsis axillaribus terminalibusve oppositis villosis, floribus sessilibus confertis. *Sm. in Linn. Trans. v.* 3. *p.* 268. *De Cand. Prodr. v.* 3. *p.* 226.—Melaleuca villosa. *Linn. Fil.*—M. æstuosa. "*Forst. Prodr. n.* 215."—M. spectabilis. *Gærtn.* (fide *Menziesii.*)—Leptospermum collinum. *Forst. Gen.* 36. *n.* 2. (fide *De Cand.*)

In the older leaves, the pubescence altogether disappears, but the calyces and pedicels always continue white with down.

2. Metrosideros *diffusa;* foliis oppositis ovatis venosis utrinque glabris, paniculis axillaribus terminalibusve oppositis villosis, pedicellis oppositis. *Sm. l. c. v.* 3. *p.* 268. *De Cand. Prodr. v.* 3. *p.* 224.

Our specimens are from Tahiti, as were those gathered by Nelson, and mentioned by Smith in Rees' Cyclopædia.

3. Metrosideros *obovata;* foliis oppositis obovatis coriaceis obtusissimis venosis glabris in petiolum brevem attenuatis, margine paululum reflexo, corymbis axillaribus terminalibusque, calycibus glabris elevato-nigro-punctatis. (Tab. XII.)

Rami obscure tetragoni, cortice pallide fusco tecti. *Folia* sesquiunciam ad duas uncias longa, fere sesquiunciam lata, obovata, obtusissima, coriacea, integerrima, glabra, supra nitida, utrinque parallelim venosa, intra venas reticulata, margine læviter reflexo, basi in petiolum duas vel tres lineas longum attenuata. *Corymbi* multiflori, terminales et axillares. *Pedunculi* breves, pedicellique glabri. *Calyx* turbinatus, extus nigro-punctatus punctis elevatis, quinquelobus, lobis obtusis. *Petala* lobis longiora, dorso punctato scabro. *Capsula* calyce persistente cincta, 3-valvis, loculicida.

Hab. Gambier's Island.

Tab. XII. *Fig.* 1, Flower; *fig.* 2, Flower, laid open; *fig.* 3, Capsule, with the calyx; *fig.* 4, Capsule, with part of the calyx removed; *fig.* 5, Capsule burst open.

Ord. XVII. CUCURBITACEÆ. *Juss.*

1. Lagenaria *vulgaris. Ser. in De Cand. Prodr. v.* 3. *p.* 299.—Cucurbita lagenaria. *Linn.*

1. Cucumis *Citrullus. Ser. in De Cand. Prodr. v.* 3. *p.* 301. Cucurbita Citrullus. *Linn.*

2. Cucumis *sativus. Linn.*—*De Cand. Prodr. v.* 3. *p.* 300.

Mr. Collie takes notice of some other species of *Cucurbitaceæ*, found in Tahiti, but they do not appear in the Collection: one is mentioned in that gentleman's Notes as the *Arroro* of the natives, (probably *Cucurbita Aurantia,*) which is employed for holding the perfumed cocoa-nut oil, or *Monoe.*

Ord. XVIII. PORTULACEÆ. *Juss.*

1. Portulaca *oleracea. Linn.*—*De Cand. Pl. Gr. t.* 123, *Prodr. v.* 3. *p.* 353.—P. flava. "*Forst. Pl. Esc.* 72."

1. Talinum *patens. Willd.*—*De Cand. Prodr. v.* 3. *p.* 357.—T. paniculatum. *Gærtn.*—Portulaca patens. *Jacq. Vind. v.* 2. *t.* 151.

Ord. XIX. FICOIDEÆ. *Juss.*

1. Sesuvium *portulacastrum. Linn.*—*De Cand. Prodr. v.* 3. *p.* 453.—Aizoon canariense. *Andr. Bot. Rep. t.* 201.

Found on all the Coral Islands, according to Mr. Collie's Notes, but the only specimen in the Collection was from Whitsunday Island, gathered by Mr. Lay.

ORD. XX. UMBELLIFERÆ. *Juss.*

1. Eryngium *aquaticum. Linn.—De Cand. Prodr. v.* 4. *p.* 95.

ORD. XXI. LORANTHEÆ. *Juss.*

1. Viscum *opuntioides. Linn.—De Cand. Prodr. v.* 4. *p.* 284.

ORD. XXII. RUBIACEÆ. *Juss.*

1. Nauclea *rotundifolia;* glabra, ramulis tetragonis, foliis petiolatis cordato-subrotundis breviter acuminatis subtus pallidioribus, pedunculis axillaribus oppositis solitariis compressis medio articulatis, capitulis globosis canescenti-tomentosis, calycis laciniis ovatis obtusis. *De Cand. Prodr. v.* 4. *p.* 346.

Our specimens are only in bud, and may prove a distinct species. In one instance the peduncle is terminal and not jointed, so that it perhaps ought to be described as terminal on a short axillary branch, which is furnished about the middle with two small opposite deciduous leaves.

1. Cephaelis? *fragrans;* tetrandra, ramulis compressis, foliis late ovalibus obovatisque obtusis coriaceis glabris reticulatim venosis breve petiolatis, stipulis ovatis acuminatissimis, pedunculis bibracteatis, bracteis cordiformibus basi bibracteolatis, floribus ternis sessilibus. (TAB. XIII.)

Caulis altissimus, gracilis, lignosus, ramique teretes. *Ramuli* ancipiti-compressi, glabri. *Folia* fere 3 uncias longa, obovata, vel late ovalia, coriacea, obtusa, venosa atque reticulata, integerrima, glabra, supra præcipue nitida. *Petioli* 2 lineas longi, hinc plani, dorso convexi, crassiusculi. *Stipulæ* parvæ, lato-ovatæ, mucronato-acuminatæ, deciduæ, in axillis parum pilosæ. *Pedunculi* axillares et terminales subsesquiunciam longi, apice bracteas 2 lato-cordatas 6–8 lineas longas erectas acutas foliaceas ad basin bibracteolatas gerentes. *Bracteolæ* stipularum forma et magnitudine. *Flores* 3, sessiles intra bracteas, vel brevissime pedicellati, odorati. *Calyx* urceolato-cylindraceus, superne liberus, brevissime 4-dentatus. *Corolla* hypocrateriformis, rubra. *Tubus* elongatus, gracilis, 6–7 lineas longus, limbo (æstivatione spirali) patentissimo 4-partito, laciniis lanceolatis tubo subbrevioribus. *Stamina* 4, fauci inserta. *Antheræ* lineares, acutæ. *Germen* ovali-cylindraceum. *Stylus* glaber, filiformis, superne glandulosus, tubo longior. *Stigma* clavatum, bipartitum.

HAB. Elizabeth Island.—"This," Mr. Collie observes, "forms a tree or shrub, the trunk of which is very slender, about two inches (feet?) in circumference, and twenty feet high. The wood is whitish, very hard, and close-grained, with a reddish inner bark." It seems to approach the *Cephaelis speciosa* of Sprengel, (from Tahiti,) but the leaves are not "oblongo-lanceolate."

TAB. XIII. *Fig.* 1, Bracteas, with flower and two germens; *fig.* 2, Stamen; *fig.* 3, Part of the style and stigma.

1. Stylocoryna *racemosa;* foliis elliptico-oblongis basi acutis apice acuminatis glabris, paniculis axillaribus dichotomis laxis folio dimidio brevioribus, corolla hypocrateriformi lobis tubo longioribus. *DC.—Cav. Ic. v.* 4. *t.* 368. *De Cand. Prodr. v.* 4. *p.* 377.

1. Petesia *carnosa;* foliis oppositis oblongo-obovatis obtusis basi attenuatis glabris carnosis, pedunculis axillaribus 1-floris.

Caulis dichotome ramosus. *Folia* versus apicem ramulorum crebra, oblonga v. obovata, obtusa, in petiolum attenuata, carnosa. *Stipula* interpetiolaris lata brevis mucronulata. *Pedunculi* axillares foliis dimidio

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TAB. XIV.

W. J. H. del.

Chiococca barbata Forst.

breviores ad medium bi-bracteati: *Bracteæ* rotundato-ovatæ. *Calycis tubus* subrotundus: *Limbus* brevis, 4-dentatus. *Corolla* (nobis non visa, at, secundum *Collie*) infundibuliformis, 4-loba, cum antheris 4 in faucem sessilibus. *Fructus* junior bilocularis, polyspermus: maturus (sec. *Collie*) baccatus.

This appears to us to belong decidedly to *Petesia*, as described by De Candolle, (Prodr. v. 4. p. 395.) It cannot be the *P. carnea*, Forst. (*Eumachia*, DC.), since that has only one seed in each cell of the fruit; and it differs from most *Rubiaceæ* in its carnose leaves.

1. Morinda *citrifolia*. *Linn.—De Cand. Prodr. v.* 4. *p.* 446.

1. Timonius *Forsteri;* foliis obovatis, floribus axillaribus, masculis cymosis, hermaphroditis solitariis, bacca subrotunda. *De Cand. Prodr. v.* 4. *p.* 461.—Erithalis polygama, *a.* "*Forst. Prodr.* 1. *n.* 101."—Bumeya Forsteri. *Cham. et Schlecht.*

In the Linnæa, the parts of the flower are described as quinary or quaternary. In our specimens, their arrangement is sometimes senary.

1. Guettarda *speciosa*. *Linn.—De Cand. Prodr. v.* 4. *p.* 455. *Lam. Ill. t.* 154. *f.* 2.

Hab. Whitsunday Island. (*Mr. Lay.*)

1. Canthium *lucidum;* ramis inermibus, foliis breviter petiolatis ellipticis obtusis, basi paululum attenuatis coriaceis supra lucidis subtus pallidis, cymis pedunculatis axillaribus, bacca subglobosa.

This plant has the calyx 4–5-toothed, the corolla 4–5-lobed, and either 4 or 5 stamens. The character accords with that of the genus in De Candolle's Prodr. v. 4. p. 473, and our species appears closely allied both to *C. glabrum* and *C. nitens.*

1. Chiococca *barbata;* erecta, foliis ovalibus basi acutis in petiolum brevissimum attenuatis apice acuminatis obtusis, pedunculis axillaribus solitariis uni-trifloris, corolla fauce barbata. (Tab. XIV.)—"*Forst. Prodr.* 1. *p.* 96." *De Cand. Prodr. v.* 4. *p.* 483.

Caulis subarboreus; ramis erectis, elongatis, glabris, teretibus. *Folia* digitalia, ovalia, membranaceo-coriacea, subnitida, integerrima, subtus pallida, basi in petiolum perbrevem attenuata, apice acuminata, obtusa. *Stipulæ* late cordato-ovatæ, mucronato-acuminatæ, rigidæ. *Pedunculi* axillares, triflori, supremi uniflori: *Pedicelli* bracteis brevissimis suffulti. *Calyx* quinquedentatus, dentibus brevibus acutis. *Corolla* infundibuliformis, 5-fida, ore barbato, laciniis ovatis, demum reflexis. *Stamina* paululum exserta. *Stylus* filiformis. *Stigma* capitatum, obscure bilobum. *Fructus: Drupa* magnitudine *Nucis Avellanæ*, obcordata: nucibus duabus monospermis.

This appears to us to be the *C. barbata* of Forster. Yet it is described as having the leaves *acute* at both extremities, and the peduncles single-flowered. De Candolle says that in habit this differs from the genus, but he was only acquainted with the plant in an indifferent state.

Tab. XIV. *Fig.* 1, Flower; *fig.* 2, Part of the corolla, style, and stigma; *fig.* 3, Germen; *fig.* 4, Section of do.; *fig.* 5, Drupe; *fig.* 6, Section of the drupe, to show the two nuts.

2. Chiococca *odorata;* foliis lato-ovalibus subcoriaceis obtusissimis basi acutis in petiolum brevem decurrentibus, pedunculis axillaribus solitariis 3–4-floris, corolla fauce barbata. —Coffæa odorata. "*Forst. Prodr.* 1. *n.* 94." ?

Hab. Elizabeth Island.—Of this we have seen no fruit; but the flowers and the general habit of the plant are so very similar to those of the preceding, that we cannot separate it from the genus *Chiococca.* The flowers are described as fragrant, and smelling like cowslips; and it may be the *Coffæa odorata* of Forster, but the description given of that plant is too brief to enable us to judge with certainty respecting it.

1. Geophila *reniformis. Cham. et Schlecht. in Linn. v.* 4. *p.* 137. *De Cand. Prodr. v.* 4. *p.* 537.—Psychotria herbacea. *Linn.—Jacq. Am. t.* 46.

1. Diodia *rigida. Cham. et Schlecht. in Linn.* 1828. *p.* 341. *De Cand. Prodr. v.* 4. *p.* 564.—Spermacoce rigida. *Humb. et Kunth.*

1. Mitracarpum *hirtum. De Cand. Prodr. v.* 4. *p.* 572.—Spermacoce hirta. *Sw.*

ORD. XXIII. COMPOSITÆ. *Juss.*

1. Lavenia *erecta. Sw.—Spreng. Syst. Veget. v.* 3. *p.* 445.

1. Bidens *odorata? Cav. Ic. v.* 1. *t.* 13. *Spreng. Syst. Veget. v.* 3. *p.* 454.

2. Bidens *paniculata;* suffruticosa, foliis oppositis longe petiolatis lato-lanceolatis acuminatis glabris serratis acumine integerrimo, panicula patente terminali, floribus parvis parce radiatis, involucro brevi, acheniis dentibusque 2 brevibus hispidis.

The specimens are in a bad state. The plant is said to be suffruticose by Mr. Collie, and, mixed with Cocoa-nut juice and boiled, is employed as a cathartic by the natives of Otaheite, who call it *Motu.*

1. Ethulia *ageratoides? Spreng. Syst. Veget. v.* 3. *p.* 458.—Alomia ageratoides. *Humb. et Kunth, Nov. Gen. t.* 354.

Our plant, which is in a very imperfect condition, is an *Ethulia*, and appears to be a luxuriant state of the *E. ageratoides.*

1. Siegesbeckia *orientalis. Linn.*—S. triangularis. *Cav. Ic. v.* 3. *t.* 253.

ORD. XXIV. GOODENOVIÆ. *Br.*

1. Scævola *Könige. Linn.*

ORD. XXV. JASMINEÆ. *Juss.*

1. Jasminum *azoricum? Linn.—Bot. Mag. t.* 89.

Our specimens of this plant from Tahiti come so near the *J. azoricum*, that we scarcely know how they are to be distinguished; but the present has smaller flowers, and less distinctly marked teeth of the calyx than is the case in that species.

ORD. XXVI. APOCINEÆ. *Br.*

1. Alyxia *scandens;* foliis oppositis elliptico-oblongis obtuse acuminatis utrinque nitidis parallelim venosis, pedunculis sub-3-floris folio multo brevioribus.—*Roem. et Schul. Syst. Veget. v.* 6. *p.* 440. *Spreng. Syst. Veget. v.* 1. *p.* 835.

ORD. XXVII. ASCLEPIADEÆ. *Br.*

1. Asclepias *Curassavica. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 847.

ORD. XXVIII. CONVOLVULACEÆ. *Juss.*

1. Convolvulus *Batatas. Linn.*

2. Convolvulus *Pes Capræ. Linn.*

ORD. XXIX. BORAGINEÆ. *Juss.*

1. Heliotropium? *anomalum;* suffruticosum, foliis lineari-lanceolatis inferne attenuatis strigoso-hispidis, racemis glomeratis, segmentis calycinis valde inæqualibus, nucibus 5!

Radix perennis, subfusiformis. *Caules* adscendentes valde dichotome ramosi, teretes, inferne frutescentes, ubique pilis albidis erectis hispidi. *Folia* unciam longa, lanceolata, inferne attenuata, integerrima, acuta, dense strigoso-hispida. *Racemi* terminales, glomerati, plerumque bifidi. *Calyx* quinque-rarius quadri-partitus, laciniis duabus maximis spathulatis patentibus, reliquis linearibus minoribus erectis, strigoso-hispidus. *Corolla* subinfundibuliformis, limbo patente 5–6-partito, plicato, extus tubo præcipue hispida. *Stamina* 5–6, tubo inserta, inclusa. *Germen* subrotundum, 5-lobum. *Stylus* tubo corollæ brevior. *Stigma* capitatum, apice pilis albis erectis penicillatum. *Fructus* e nucibus 5 scabris.

Hab. Whitsunday Island.—This singular and interesting plant may probably be the *Lithospermum incanum*, Forst.; but we nowhere find it remarked as having a fruit separable into five nuts, a character almost at variance with the *Boragineæ*, to which Order, nevertheless, our plant undoubtedly belongs.

1. Tournefortia *argentea. Linn.*

2. Tournefortia *gnaphalioides. Br.*—Heliotropium gnaph. *Linn.*

1. Cordia *discolor? Cham. in Linn.*

One solitary specimen, of which the flowers are unexpanded, seems to agree with the *C. discolor* which we have from Chamisso, and also from Dr. Boog, gathered in Brazil, as well as from Rev. L. Guilding, gathered in St. Vincent.

Ord. XXX. CYRTANDRACEÆ. *Jack.*

1. Cyrtandra *biflora;* frutescens, erecta, foliis ovali-ellipticis utrinque acutiusculis subintegerrimis glabris subtus pallidis, pedunculis axillaribus subtrifloris, calyce pubescenti-tomentoso. *Forst. Gen. p.* 5. *t.* 3.

Ord. XXXI. SOLANEÆ. *Juss.*

1. Solanum *nigrum. Linn.*

In our specimens the leaves are hairy.

2. Solanum *Quitense.*

1. Lycopersicon *esculentum. Dunal.*—Solanum Lycopersicum. *Linn.*

1. Physalis *angulata. Linn.*

Ord. XXXII. SCROPHULARINEÆ. *Juss.*

1. Scoparia *dulcis. Linn.*

Ord. XXXIII. LABIATÆ. *Juss.*

1. Ocymum *gratissimum. Linn.*

1. Leucas *decemdentatus. Sm. in Rees' Cycl.*—L. stachyoides. *Spr.*—Stachys decemdentata. *Forst.*

Ord. XXXIV. VERBENACEÆ. *Juss.*

1. Verbena *bonariensis. Linn.*

1. Premna *integrifolia. Linn.*

Ord. XXXV. MYOPORINEÆ. *Br.*

1. Myoporum? *euphrasioides;* foliis oppositis ovatis subdentatis in petiolum attenuatis, floribus geminis, pedunculo petiolum æquante, calycibus ampliatis, drupa biloculari, loculis monospermis.

Frutex erectus, ramis oppositis pubescentibus. *Folia* opposita, vix semiunciam longa, ovata, acutiuscula, integra vel crenato-dentata, imo quandoque incisa, inferne in petiolum brevem attenuata, pubescentia, siccitate nigrescentia. *Pedicelli* geminati, axillares, breves. *Calyx* subcampanulatus, 5-fidus, pubescens, laciniis ovatis acutis, demum ampliatis, tubo lineis 5 elevatis. *Corolla* subcampanulata, 5-loba, lobis fere æqualibus. *Stamina* 4, didynama, tubo inserta: *Antheræ* bilobæ, lobis basi divaricatis mucronatis. *Germen* ovatum in stylum filiforme attenuatum: *Stigma* dilatatum obtusum. *Drupa* ovali-globosa stylo mucronata, pubescens, calyce persistente cincta, bilocularis, loculis monospermis.

Hab. Whitsunday Island.—This singular plant has much the habit of some of the *Scrophularineæ*, particularly *Euphrasia* and *Bartsia*, but there is only seed in each cell of the fruit, and that fills it up entirely. It differs from *Myoporum* in several points, nor do we know any genus to which it is decidedly referable.

Ord. XXXVI. NYCTAGINEÆ. *Juss.*

1. Boerhaavia *hirsuta. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 36.

2. Boerhaavia *tetrandra;* caule tereti glabro procumbente, foliis subrotundis emarginatis crassiusculis basi vix attenuatis subtus (siccitate) rugosis pallidioribus, floribus umbellatis 2–5-andris. "*Forst. Prodr. n.* 5." *Spreng. Syst. Veget. v.* 1. *p.* 37.

Ord. XXXVII. AMARANTHACEÆ. *Juss.*

1. Amaranthus *viridis. Linn.*

1. Gomphrena *globosa. Linn.*

1. Achyranthes *aspera? Linn.*

This plant is much larger than the usual state of *A. aspera;* its leaves soft and velvety, with dense silky hairs; the spike a foot or a foot and a half long; the rachis very woolly; and the flowers remote.

2. Achyranthes *velutina;* fruticosa, ramis herbaceis hirsutis, foliis ovalibus utrinque acutis breviter petiolatis sericeo-velutinis, spica demum longissima, floribus inferioribus remotis, rachi lanata.

Hab. Bow Island.—Allied to *Achyranthes aspera*, but much larger in every part, with the leaves beautifully velvety, with dense silky hairs. We have the same plant, gathered by Mr. Menzies in Owhyhee and by Mr. Macrae in Oahu: that of the former shows the lower part of the plant to be decidedly woody. Some of the undivided stems are, including the spikes, nearly three feet long. From the axils of the leaves, upon exceedingly short ramuli, other leaves appear, which give a fasciculated or almost verticillate appearance to the foliage. The flowers are very glossy, at length reflexed, pentandrous, with 5 fimbriated processes alternating with the stamens. *Style* filiform. *Stigma* capitate.

1. Desmochæta *micrantha? De Cand.—Spreng. Syst. Veget. v.* 1. *p.* 818.—Achyranthes prostrata, *β. Lam.*

The specimens are small, procumbent, and apparently annual.

Ord. XXXVIII. POLYGONEÆ. *Juss.*

1. Polygonum *Persicaria. Linn.*

Ord. XXXIX. THYMELEÆ. *Juss.*

1. Daphne *indica;* capitulis florum sericeo-pubescentium breve pedunculatis terminalibus, perianthii laciniis lanceolatis acuminatis, foliis oppositis petiolatis ovali-lanceolatis acutis ramulisque adultis glabris. (Tab. XV.) *Linn.—Wikstr. de Daphn. p.* 17. *Spreng. Syst.*

Daphne indica. Linn

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Veget. v. 2. *p.* 236. *Br. Prodr. v.* 1. *p.* 362.—Daphne fœtida. *Linn. Suppl.* "*Forst. Prodr. n.* 168."—Capura purpurata. *Linn. Mant.* (*Sm.*)

Frutex valde ramosus, nostris exemplaribus ubique glaber. *Folia* opposita, duas fere uncias longa, coriaceo-membranacea, venosa, oblongo-lanceolata, integerrima, acuta, rarius obtusiuscula, breve petiolata, subtus pallidiora. *Flores* terminales in capitulum brevissime pedunculatum congesti. *Pedunculus* angulatus, pubescens. *Perianthium* 3 lineas longum, gracile, pubescenti-sericeum; tubo lineari; laciniis lanceolato-acuminatis. *Stamina* parva: 4 inferiora inclusa: 4 superiora paululum exserta: *Antheræ* oblongæ. *Germen* ovali-oblongum: *Stylus* brevis: *Stigma* sessile. *Fructus* nobis ignotus.

TAB. XV. *Fig.* 1, Head of flowers; *fig.* 2, Single flower; *fig.* 3, Flower laid open, to show the stamens and pistil:—*magnified.*

ORD. XL. EUPHORBIACEÆ. *Juss.*

1. Bradleia *Glochidion? Gærtn.*—Glochidion ramiflorum. "*Forst. Prodr. n.* 144."

Our plant is certainly a *Bradleia*, but in so imperfect a condition that we cannot be sure it is the *Glochidion* of Forster. It was gathered in Elizabeth Island.

1. Phyllanthus *virgatus;* ramis compressis virgatis, foliis lineari-lanceolatis mucronatis, floribus sparsis brevissime pedunculatis. *Spr.*—"*Forst. Prodr. n.* 341." *Spreng. Syst. Veget. v.* 3. *p.* 23.

This plant we have received from Baron De Lessert, marked "*P. linifolius*, Commers." as a native of the Isle of France, and from Madagascar, where it was gathered by Professor Bojer.

1. Euphorbia *ramosissima;* herbacea, ramosissima, prostrata, glabra, foliis oppositis brevi petiolatis rotundato-ellipticis integerrimis subtus glaucis, stipulis ovatis minute fimbriatis, paniculis dichotomis terminalibus paucifloris, involucri glandulis reniformibus petaloideis.

The nearest affinity of this *Euphorbia*, which is from Elizabeth Island, seems to be the *E. Atoto* of Forst.; but that, according to the character given by Sprengel, is erect, and nearly simple.

1. Hernandia *Sonora. Linn.*

1. Aleurites *triloba. Linn.*

ORD. XLI. URTICEÆ. *Juss.*

1. Urtica *virgata;* herbacea, ubique glabra, foliis oppositis ovatis acuminatis triplinerviis longe petiolatis obtuse crenato-serratis supra minutissime elevato-punctatis subtus lævibus, spicis longissimis filiformibus axillaribus interruptis dioicis.—"*Forst. Prodr. n.* 345." *Willd. Pl. v.* 4. *p.* 355.

2. Urtica *ruderalis;* annua, foliis alternis cordato-ovatis acutiusculis triplinerviis obtuse serratis subtus glaucis supra minutissime punctato-scabris, glomerulis masculinis axillaribus racemosis longe pedunculatis, fœmineis paniculato-corymbosis terminalibus.—"*Forst. Prodr. n.* 344." *Willd. Sp. Pl. v.* 4. *p.* 364.

Our specimens, if they be really the plant of Forster, are decidedly annual, and of small stature, as described by Willdenow; whereas, Sir James E. Smith, in Rees' Cycl., says that what he described from Forster had woody branches, and appeared to belong to a shrubby stem of considerable size.

3. Urtica *affinis;* herbacea, debilis, flexuosa, foliis alternis cordato-acuminatis membran-

aceis longe petiolatis grosse serratis triplinerviis piloso-hispidis subtus pallidioribus, spicis axillaribus folia excedentibus glomerato-interruptis.

This is nearly allied to *Urtica cylindracea* of North America, in the shape of its leaves and general appearance of the flowers on the spikes; but the former are constantly alternate, and the whole plant is more hispid.

1. Procris *sessilis;* herbacea, erecta, foliis oblongo-lanceolatis acutis falcatis penninerviis grosse serratis supra præcipue pilis fusiformibus adnatis asperis basi obliquis subauriculatis subsessilibus junioribus subtus hirsutis, stipulis oblongis membranaceis, capitulis masculis sessilibus fœmineis pedunculatis involucratis.—Elatostema sessile. *Forst. Gen. p.* 106.—Dorstenia pubescens. "*Forst. Prodr. n.* 59."—Procris australis. *Spr.*

2. Procris *integrifolia;* herbacea, erecta, foliis oblongo-lanceolatis acuminatis subfalcatis obscure penninerviis integerrimis supra pilis fusiformibus adnatis asperis basi obliquis breve petiolatis, stipulis lanceolatis, capitulis sessilibus. *Don, Prodr. Fl. Nepal. p.* 61.

Our specimens of these two species of *Procris* are not in a sufficiently perfect state to allow us to judge how far one or other of them may belong to the Genera *Elatostema* and *Sciophila*, as defined by Gaudichaud in the Botany of Freycinet's Voyage. The present species we possess from the Mauritius and Prince of Wales Island, and it appears identical with the *P. integrifolia* of Mr. Don.

ORD. XLII. AMENTACEÆ. *Juss.*

1. Casuarina *equisetifolia. Forst.*

ORD. XLIII. PIPERACEÆ. *Rich.*

1. Piper *latifolium;* fruticosum, foliis latissime cordato-subrotundatis 11- 5-nerviis obtusis membranaceis petiolisque glabris, spicis axillaribus aggregatis.—"*Forst. Prodr. n.* 22."

1. Peperomia *rhomboidea;* herbacea, foliis rhombeo-rotundatis acutiusculis carnosis integerrimis breve petiolatis siccitate pellucidis 5–9-nerviis, spicis solitariis (?) filiformibus erectis folio longioribus.

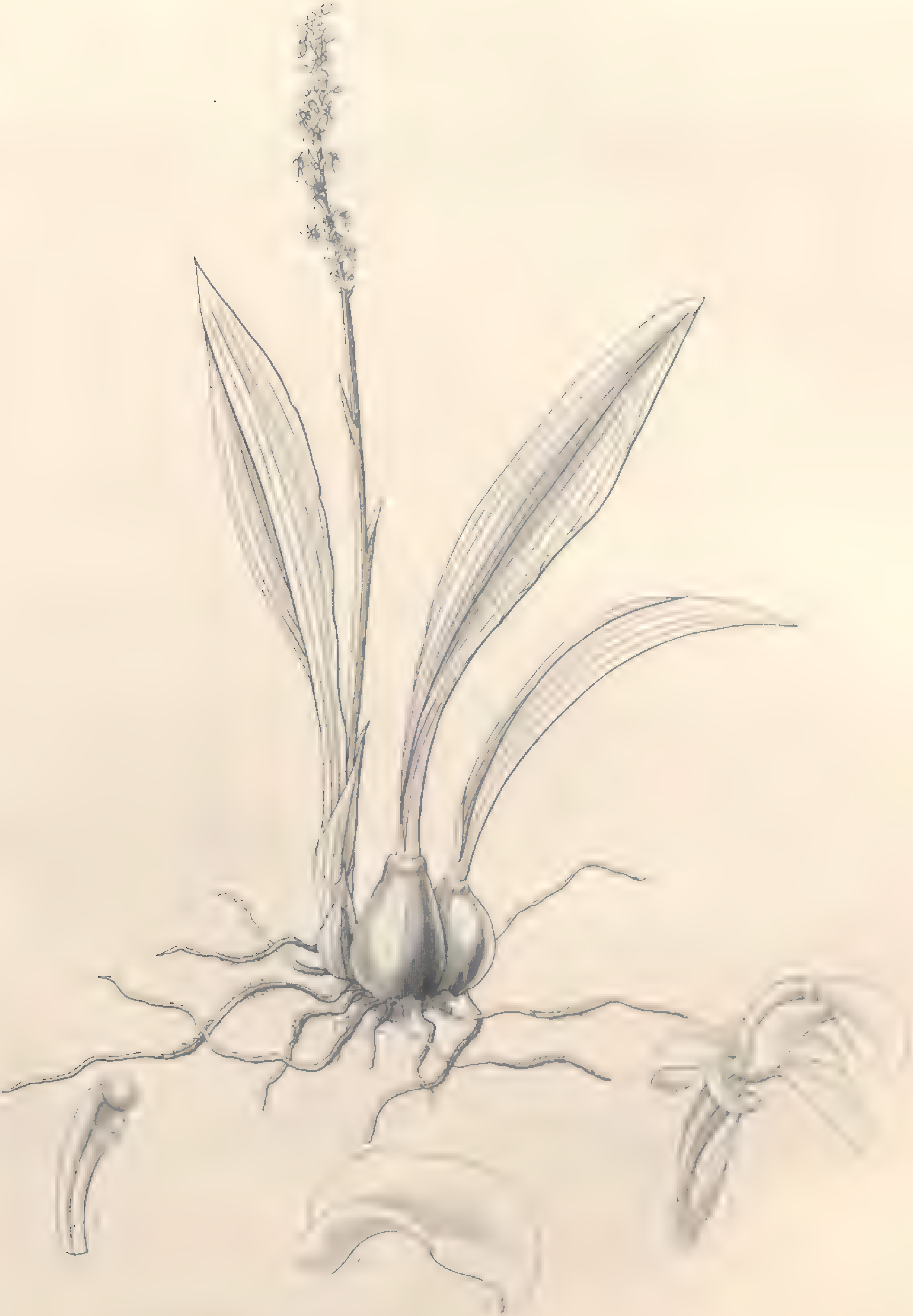
Of this plant, the leaves are from an inch and a half to two inches or more in length, and about two-thirds the length of the spikes, on petioles that are scarcely two lines long.

ORD. XLIV. ORCHIDEÆ. *Juss.*

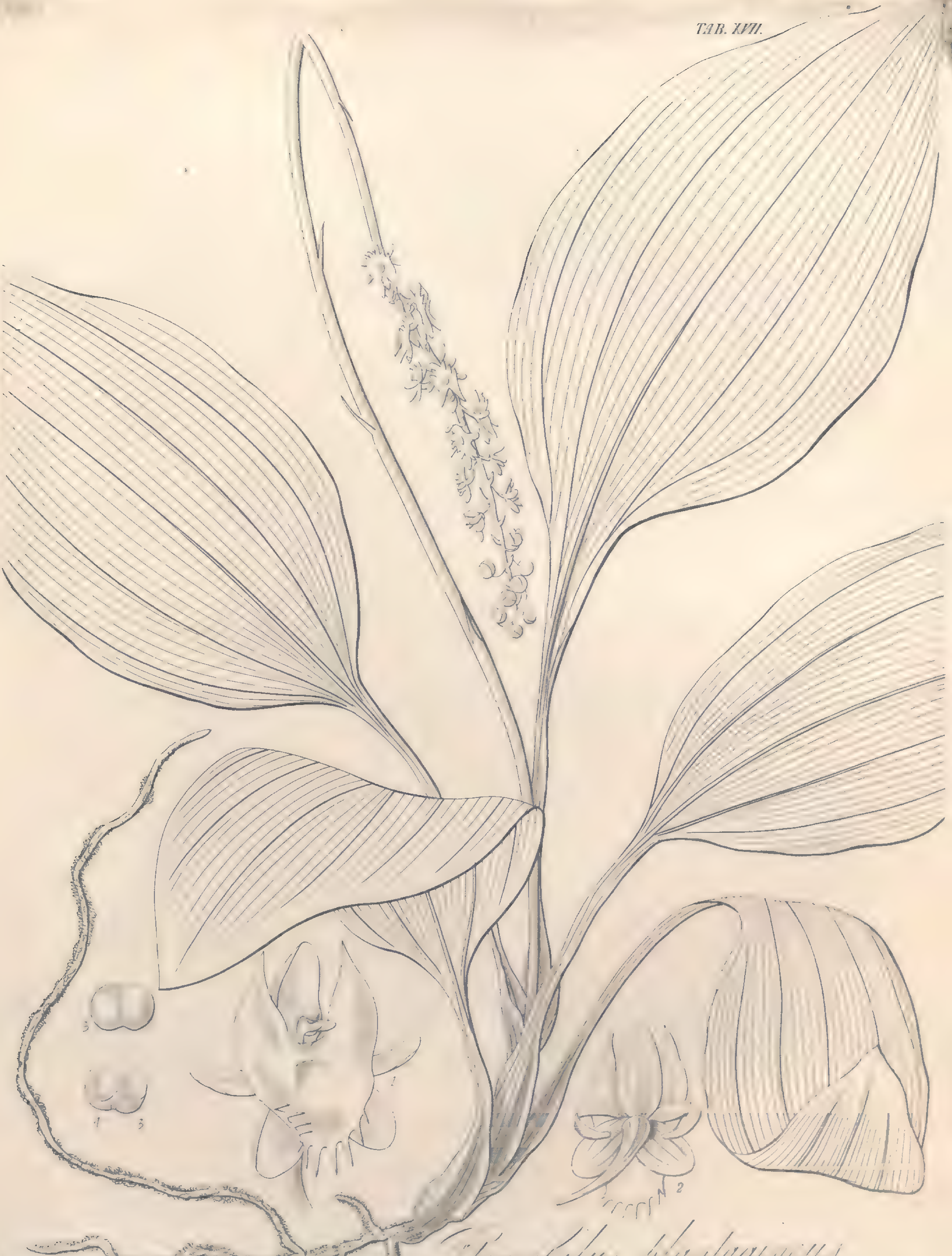
1. Liparis *revoluta;* bulbo unifolio, scapo ancipite racemoso folium lanceolatum sessile membranaceum striatum superante, perianthii foliolis revolutis, labello ovato acuto integro apice revoluto basi ecalloso, bracteis pedicelli longitudine. (TAB. XVI.)

Bulbi aggregati, ovati, vix unciam longi nitidi, basi squamis magnis membranaceis tecti, unifolii. *Folium* terminale, digitale, lanceolatum, membranaceum, striatum, basi attenuatum. *Scapus* e basi folii et eo longior, racemosus, inferne anceps. *Racemus* gracilis, multiflorus. *Flores* parvi, ut videtur flavescentes. *Bracteæ* majusculæ, membranaceæ, germine breviores, ovato-acuminatæ. *Pedicelli* breves. *Perianthii foliola* 3 exteriora majora, reflexa, oblongo-ovata, 2 interiora linearia, revoluta. *Labellum* erecto-patens, majusculum, ovatum, integerrimum, basi ecalloso lateribus incurvis, apice acuto, recurvo. *Columna* semiteres, labello duplo brevior. *Antheræ* hemisphæricæ. *Germen* obovatum in pedicello attenuatum.

TAB. XVI. *Fig.* 1, Flower; *fig.* 2, Labellum; *fig.* 3, Column:—*magnified.*



Liparis crenulata



Peristylus plantagineus

1. Oberonia *brevifolia. Lindl. in Gen. et Sp. Orch. p.* 16.—Epidendrum equitans. "*Forst. Prodr. n.* 316."—Cymbidium equitans. *Sw.—Thouars Orch. Afr. t.* 92.—Pleurothallis disticha. *Ach. Rich. Orch. Maurit. p.* 55. *t.* 8. *f.* 1.

2. Oberonia *Myosurus. Lindl. in Wall. Cat. of Pl. of E. Ind. C. n.* 1947. *Gen. et Sp. Orch. p.* 16.—Epidendrum Myosurus. "*Forst. Prodr. n.* 317."—Dendrobium Myos. *Sw.*

1. Dendrobium *biflorum. Sw.—Lindl. in Gen. et Sp. Orch. p.* 78.—Epidendrum biflorum. "*Forst. Prodr. n.* 318."

1. Cirrhopetalum *umbellatum. Reinw.*—Cirrhopetala Thouarsii. *Lindl. in Bot. Reg. sub tab.* 832.—Zygoglossum umbellatum. *Reinw. in Bot. Zeit. Syll. Pl. Nov. p.* 5.—Epidendrum umbellatum. "*Forst. Prodr.*" (non *Sw.*)

Flowers of this curious plant without leaves are in the Collection.

1. Calanthe *veratrifolia. Ker in Bot. Reg. t.* 720. *Sims in Bot. Mag. t.* 2615.—Limodorum veratrifolium. *Willd.*—Flos triplicatus. *Rumph. Amb. v.* 6. *p.* 115. *t.* 52. *f.* 2.

PTEROCHILUS. (*Nov. Gen.*)

Labellum amplum medio depressum, superne utrinque in alam adscendentem acutam dilatatum, apice fimbriato-ciliatum. *Perianthii foliola* 3 *exteriora* ovata, æqualia, patentia, 2 *interiora* linearia. *Columna* semiteres, superne utrinque producta. *Anthera* terminalis, operculiformis, bilobata. Massæ pollinis—?—Herba *terrestris, radice fibrosa.* Caulis *brevis foliosus.* Folia *ampla, membranacea, petiolata, basi dilatato-vaginantia.*

1. Pterochilus *plantaginea.* (Tab. XVII.)

Radix e fibris paucis crassis flexuosis nigro-tomentosis. *Caulis* erectus, brevis, vix digitem longus, petiolorum vaginis membranaceis circumvolutus. *Folia* ovata, membranacea, glabra, striata, subacuminata, 4–5 pollices longa, basi in petiolum subæque longum attenuata. *Scapus* seu *pedunculus* terminalis, 8–9 uncias longus, erectus, flexuosus, hic illic bracteatus in racemum multiflorum terminans. *Flores* parvi. *Bracteæ* pedicelli longitudine, lanceolatæ. *Perianthium* patens, *foliola* 3 *exteriora* ovata, æqualia: 2 *interiora* linearia, obtusa, recurva. *Labellum,* ratione floris, magnum, amplum, medio depressum, superne utrinque in alam acutam ovatam adscendentem dilatatum, marginibus integris, apice obtusum, ciliato-fimbriatum. *Columna* semiteres, brevis, superne utrinque producta. *Anthera* hemisphærica, biloba, bilocularis. *Germen* clavatum.

One specimen alone of this plant exists in the Herbarium, and this in a sufficiently perfect state to exhibit a labellum of a very remarkable character, sufficient, we believe, to authorize us in constituting of it a genus distinct from any hitherto described. It covers, in consequence of its peculiar shape and size, a considerable portion of the perianth, being extended above into two erect wings, while below it is broad and fimbriated at the extremity.

Tab. XVII. *Fig.* 1, Front view of a flower; *fig.* 2, Back view of do.; *fig.* 3, Anther-case; *fig.* 4, Interior of do.:—*magnified.*

Ord. XLV. DIOSCOREÆ. *Br.*

1. Dioscorea *bulbifera. Linn.*

Ord. XLVI. AROIDEÆ. *Juss.*

1. Tacca *pinnatifida. Linn.*

Ord. XLVII. CYPERACEÆ. *Juss.*

1. Fimbristylis *affinis;* glabra, culmis cæspitosis erectis triquetris, foliis angustissimis flaccidis, involucro 3–4-phyllo, spiculis ovatis terminalibus paucis umbellatis centrali sessili lateralibus longe pedunculatis, pedunculis involucrum æquantibus, squamis suborbiculatis acutis trinerviis scariosis glabris, stylo complanato bifido margine fimbriato, achenio obovato lenticulare-compresso longitudinaliter striato.

This is very nearly allied to *F. dichotoma* and *annua,* which have equally the leaves of the involucre ciliated: but the whole plant is larger, and differs from the former in its smooth culm and leaves, and from the latter by the two, not three, stigmas.

1. Mariscus *paniceus. Vahl.*

This, Mr. Collie observes, is frequent in the moist meadows of Tahiti.

2. Mariscus *lævigatus. Roem. et Schul. Syst. Veget. v.* 2. *p.* 242.—M. lævis. *H. B. K.*

Our specimens are very imperfect. Mr. Collie states that it is used for making hats and women's bonnets, and has been probably introduced. Its vernacular name is *Tumarnu.*

Ord. XLVIII. GRAMINEÆ. *Juss.*

1. Paspalum *orbiculare;* spicis alternis distinctis basi setigeris, flosculis glabris ovato-orbiculatis valvula exteriore glumæ trinervi, foliis planis lævibus margine incrassato denticulato. *Br.*—" *Forst. Prodr. n.* 35." *Br. Prodr. p.* 188. *Spreng. Syst. Veget. v.* 1. *p.* 247.

Our plant turns almost black in drying. At the base of many of the spikes, (not of all,) we observe one or two rather long white hairs, which we presume are the setæ of Mr. Brown.—Our specimens of *P. præcox* of Walt. from the late Mr. Elliott, gathered in Carolina, we cannot distinguish from the present. This is called in Tahiti *Nonwha,* and is exclusively used for carpetting the houses.

1. Digitaria *ciliaris. Willd.*

1. Pennisetum *calyculatum;* flosculis alternis, setis involucri latiusculis plumosis flosculos superantibus, foliis lato-lanceolatis vaginarum oris pilosis. *Spreng. Syst. Veget. v.* 1. *p.* 303. —Cenchrus calyculatus. *Cav. Ic. v.* 4. *t.* 463.

Common in the moist meadows of Tahiti, where it is known by the name of *Pirapire.*

1. Centrotheca *lappacea. Desv.—Roem. et Schul. v.* 2. *p.* 531.—Cenchrus lappaceus. *Linn.*

Most authors describe, and Pal. de Beauvois represents, the calycine glumes as three in number; whereas, in our plant, they are constantly two. The lower of the two flowers in the spikelet appears to be male, the upper one female.

1. Eleusine *indica. Lam.*—Cynosurus indicus. *Linn.*

1. Saccharum *officinarum. Linn.* var. *Tahitense. Roem. et Schul. v.* 2. *p.* 285.

1. Andropogon *acicularis. Retz.—Rumph. Amb. v.* 6. *t.* 5.

2. Andropogon *Tahitensis;* ubique glaber, culmo striato erecto apice paniculatim ramoso, foliis planis, spicis conjugatis paniculatis, rachidis articulis brevissime pilosis, spiculis binis, altera sessili uniflora hermaphrodita.

Culmus erectus, striatus, solidus, glaberrimus, inferne simplex superne paniculatim ramosus, rubescens:

Nodi inferiores glabri, superiores (ad ramorum ortum) pilos paucos breves gerentes. *Folia* longe vaginantia, plana, anguste linearia, culmum longitudine æquantia, margine serrulata scabra. *Paniculæ* compactæ. *Spicæ* duæ pedunculum bractea spathacea vaginatum terminantes. *Rachis* articulata, glabra: nodi breviter ac parce pilosi. *Spiculæ* geminæ, glabræ; altera pedicellata neutra, lanceolata, striata, mutica; altera sessilis, hermaphrodita, uniflora, glumis striatis, glumella exteriore aristata; arista flosculum subæquans, medio geniculata, inferne tortilis.

We have not been able to refer this species to any described one. It approaches much to *A. hirtus* of the South of Europe, but differs from that and from almost every hitherto known species of the genus, by the nearly total absence of hairs on the rachis; these, indeed, are so short and so few as to leave some doubts if it ought to be retained in *Andropogon*, although agreeing well in other points with the reformed character as given by Trinius.

1. Heteropogon *glaber. Pers.*—Andropogon Allionii. *Willd. Sp. Pl. v. 4. p.* 904.

Ord. XLVII. LYCOPODINEÆ. *Sw.*

1. Lycopodium *Phlegmaria. Linn.*

2. Lycopodium *cernuum. Linn.*

1. Psilotum *triquetrum. Sw.*—Bernhardia dichotoma. *Willd.*—Lycopodium nudum. *Linn.*

2. Psilotum *complanatum. Sw.*—Bernhardia complanata. *Willd.*

Ord. XLVIII. OPHIOGLOSSEÆ. *Br.*

1. Ophioglossum *pendulum. Willd.*

One of the two specimens in the Collection has a very broad frond, in some parts nearly three inches in diameter, three or four times divided in a dichotomous manner.

Ord. XLIX. MARATTIACEÆ. *Bory.*

1. Angiopteris *evecta. Hoffm.—Hook. et Grev. Ic. Fil. t.* 36.—Polypodium evectum. "*Forst. Prodr. n.* 438."

This plant is used by the natives for food in years of scarcity.

Ord. L. OSMUNDACEÆ. *Br.*

1. Schizæa *dichotoma. Willd.—Hook. et Grev. Ic. Fil. t.* 17.

1. Lygodium *scandens. Gaud.*—Hydroglossum scandens. *Willd.*—Ugena microphylla. *Cav. Ic. v.* 6. *p.* 76. *t.* 595. *f.* 2.

Ord. LI. GLEICHENIACEÆ. *Br.*

1. Gleichenia *Hermanni. Br.—Hook. et Grev. Ic. Fil. t.* 14.—Mertensia dichotoma. *Willd.*—Polypodium dichotomum. *Thunb.*

LII. POLYPODIACEÆ. *Kaulf.*

1. Acrostichum *aureum. Sw.*

1. Gymnogramma *Calomelanos. Kaulf.*—Acrostichum Calomelanos. *Linn. Willd.*

1. Antrophyum *plantagineum. Kaulf. β. Lessoni.*—A. Lessoni. *Bory in Duperrey Voy. p.* 255. *t.* 28. *f.* 2.—A. plantagineum. *Blume Fl. Jav. t.* 30.

Our plant is exactly the *A. plantagineum* figured by Blume, and equally the *A. Lessoni* of Duperrey's Voyage. Nor does the *A. Durvillei* appear to us to be really distinct from it, according to Bory's description.

1. Notochlæna *pilosa ;* frondibus ovato-lanceolatis bi-tripinnatis, pinnulis oblongis remotiusculis subtus margineque recurvo præcipue cum rachibus stipiteque nitidissimo glanduloso-pilosis.

This is allied to the *N. distans* of Mr. Brown, but has a broader frond, more lax pinnules, which are quite destitute of the paleaceous setæ so copious in the former, and sparingly clothed instead with somewhat glandular hairs.

1. Niphobolus *macrocarpus;* frondibus lineari-lanceolatis obtusis inferne in stipitem longiusculum attenuatis subtus incanis, soris serialibus ellipticis magnis prominentibus. (TAB. XVIII.)

Caudex longus, repens, magnitudine pennæ corvinæ, adpressim squamosus, hic illic fibrosus; squamis lanceolato-subulatis fuscis, margine fimbriatis. *Stipites* bi-tripollicares, glabri, versus basin articulati, infra articulum dense imbricatim squamosi. *Frondes* palmares, lineari-lanceolatæ, obtusæ, coriaceæ, supra areolis (soris oppositis) oblongis depressis, ubique squamulis minutis stellatim pilosis obsitæ, demum superne nudæ, inferne semper incanæ, margine leviter recurvæ. *Costa* subtus prominens. *Sori* magni, elliptici, fusci, valde prominentes, in unam seriem intra costam et marginem dispositi, totam dimidiam et superiorem partem frondis occupantes.

TAB. XVIII. Niphobolus macrocarpus. *Fig.* 1, Capsules; *fig.* 2, Scales from the frond:—*magnified.*

1. Polypodium *phymatodes. Linn.*

2. Polypodium *alternifolium. Willd. Sp. Pl. v.* 5. *p.* 168? *Bory in Duperrey Voy. v.* 1. *p.* 261.

3. Polypodium *latifolium.* "*Forst. Prodr. n.* 457." *Schkuhr, Fil. t.* 24.

1. Nephrodium *exaltatum. Br.*—Aspidium exaltatum. *Willd.*

2. Nephrodium *propinquum. Br. Prodr. Fl. Nov. Holl. p.* 148. *Bory in Duperrey Voy. v.* 1. *p.* 269.—Aspidium unitum. *Sw.? Schkuhr, Fil. t.* 33. B.

3. Nephrodium *nymphale.*—Polypodium nymphale. "*Forst. Prodr. n.* 442." *Schkuhr, Fil. t.* 34.—Aspidium patens. *Sw.*—A. molle. *Sw.?*

1. Asplenium *Nidus. Linn.*

2. Asplenium *obtusatum.* "*Forst. Prodr. n.* 430."—*Labill. Nov. Holl. v.* 2. *p.* 93. *t.* 242. *f.* 2. var. minor. (et A. obliquum. *Labill. Nov. Holl. v.* 2. *p.* 93. *t.* 242. *f.* 1.) *fide Br. in Prodr. Fl. Nov. Holl. p.* 150.

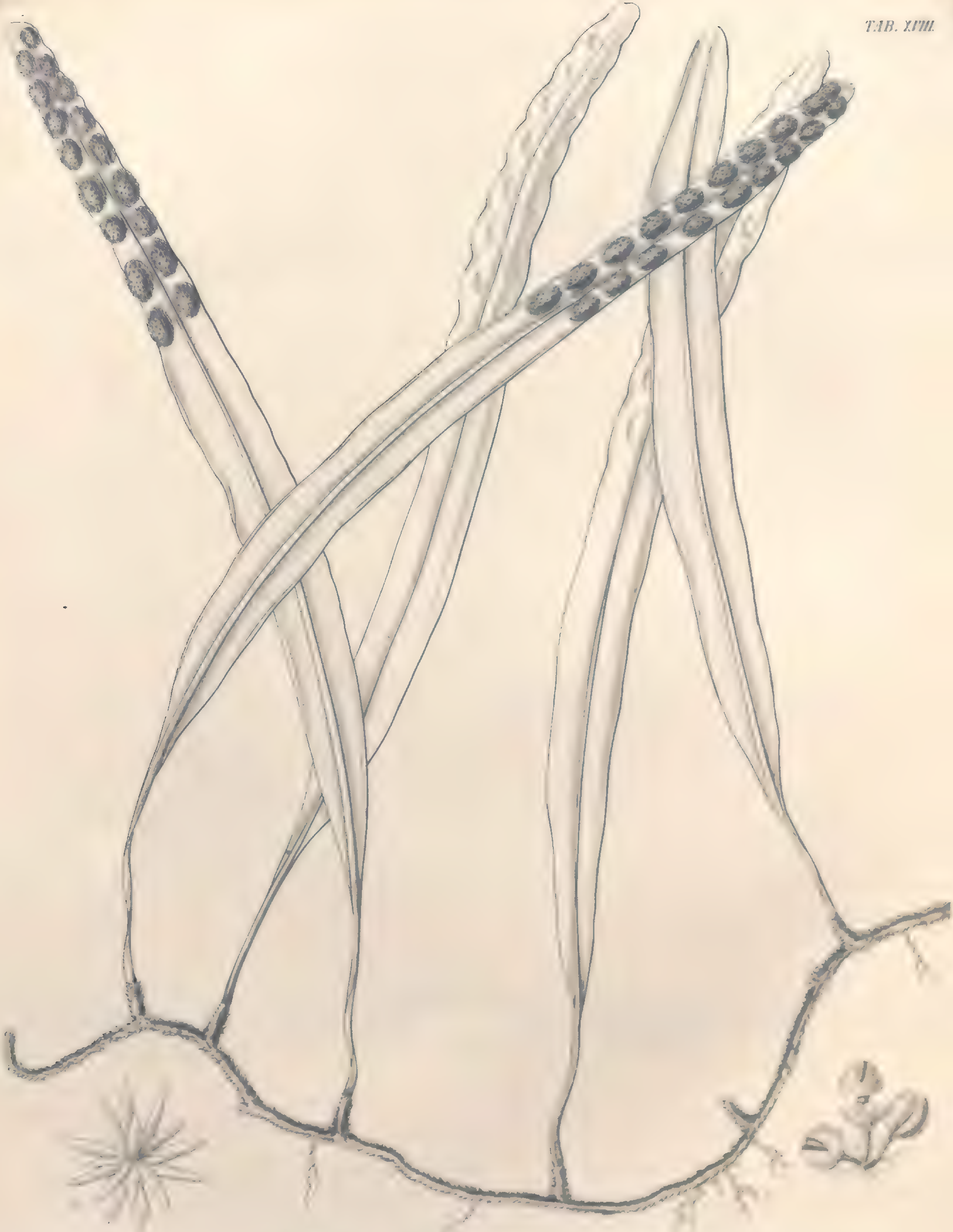
3. Asplenium *tenerum.* "*Forst. Prodr. n.* 431." *Sw. Syn. Fil. p.* 78. *et* 266. *Schkuhr, Fil. t.* 69.

1. Diplazium *arborescens. Swartz, Syn. Fil. p.* 92. *Willd. Sp. Pl. p.* 354. *Bory in Duperrey Voy. v.* 1. *p.* 271.

We have seen no authentic specimen of *D. arboreum:* but our plant accords sufficiently with the description. We have received what we consider the same species from St. Vincent in the West Indies, and have doubted if it might not be a more than usually branched state of *Asplenium ambiguum.*

1. Doodia *Kunthiana. Gaud. in Freyc. Voy. Bot. p.* 401. *t.* 14.

Although this entirely agrees with the plant above quoted, we are yet unable to decide if it be really distinct from the *Doodia caudata* of Mr. Brown. The terminal pinnæ can indeed scarcely be said to be



Niphobolus [illegible]

elongated, the whole plant is much larger, the fronds themselves a foot or more in length, the pinnæ longer and narrower: yet we possess specimens, from other sources, which seem to unite the two.

1. Blechnum *orientale. Linn.*

2. Blechnum *occidentale. Linn.*

This is identical with the West Indian *B. occidentale*, and probably the same as the *B. caudatum* of Cav. from the Philippine islands.

1. Sadleria *pallida;* pinnulis approximatis nervosis, rachi paleacea.

This is a true *Sadleria* of Kaulfuss, a genus, however, which scarcely differs from *Blechnum*, except in the hardened nature of the involucres, the compound fronds, and somewhat arborescent caudex. The only species hitherto described, is a native of the Sandwich Islands, which differs from the present in its naked rachis, more elongated pinnæ, more remote and narrower pinnules which are quite destitute of nerves, the dark colour of the whole frond, and almost black involucre. As some of the Sandwich Island and Tahiti Collections were mixed, it is probable that this plant was found in the former place, particularly as it occurs also among specimens undoubtedly from these islands.

1. Lomaria *procera? Desv.*—Blechnum procerum.—*Willd.—Sw.—Labill. Fil. Nov. Holl. v.* 2. *t.* 247.

We have seen only the fertile state of this plant which agrees with the figure of Labillardière.

1. Vittaria *rigida;* frondibus linearibus subfalcatis rigidis ecostatis, soris marginalibus.—*Kaulf. Enum. Fil. p.* 193. *Bory in Duperrey Voy. v.* 1. *p.* 274.

1. Pteris *nemoralis. Willd.*

1. Cheilanthes *dissecta;* frondibus 3–4-pinnatis, foliolis lineari-oblongis obtusiusculis subpinnatifidis superioribus coadunatis subtus pubescentibus, soris solitariis, rachibus stipiteque glabris.

This is a plant of a rather rigid habit, 3 or 4 times pinnated, with narrow, elongated, more or less pinnatifid or lobed pinnules, whose underside is downy, while the rest of the plant is glabrous. The rachis and stipes are quite destitute of scales. It appears to be most nearly allied to the *Cheilanthes arborescens*, (*Lonchitis tenuifolia*, Forst.)

1. Adiantum *pubescens. Willd.—Schkuhr, Fil. t.* 116.

2. Adiantum *pulverulentum. Linn.*

We cannot distinguish this from the species in the New World known by that name.

1. Davallia *pectinata;* fronde ovato-lanceolata coriacea profunde pinnatifida, segmentis lanceolatis crenatis obtusis inferioribus semipinnatifidis, involucris reniformibus marginalibus. *Hook. et Grev.—Sm. Act. Taur. v.* 5. *p.* 414. *Hook. et Grev. Ic. Fil. t.* 139.—Nephrodium Gaimardianum. *Gaud. in Freyc. Voy. p.* 335. *t.* 12. *f.* 1.

2. Davallia *solida;* fronde stipiteque glabris, pinna infima bipinnata, foliolis oblongis obtusis inciso-crenatis basi cuneatis, indusiis truncatis. *Spr.—Sw. Syn. Fil. p.* 132 *et* 345. *Schkuhr, Fil. t.* 126.—Trichomanes solidum. "*Forst. Prodr. n.* 475."

3. Davallia *gibberosa;* fronde supradecomposita glabra subtus glaucescente, foliolis pinnatifidis, laciniis linearibus integerrimis, fertilibus apice bifidis tumidis. *Spr.—Sw. Syn. Fil. p.* 134 *et* 351. *Schkuhr, Fil. t.* 128.—Trichomanes gibberosum. "*Forst. Prodr. n.* 470."

Forster says of the ultimate segments of the frond, "segmentis margine interiore infra apicem fructificantibus," which well expresses the character of this species: indeed, the sori being not terminal on the laciniæ, but placed a little to one side, distinguishes this from the other congeners with which it is most likely to be confounded.

1. Trichomanes *membranaceum. Linn.—Hook. Ex. Fl. t.* 76.

Hitherto this species has been only known as a native of the West Indies.

2. Trichomanes *humile;* fronde lanceolata bipinnatifida glabra marginata, laciniis linearibus obtusis integerrimis, involucris oblongo-cylindraceis, ore bilabiato, labiis rotundatis. *Hook. et Grev.*—" *Forst. Prodr. n.* 464." *Sw. Syn. Fil. p.* 143 *et* 371. *Hook. et Grev. Ic. Fil. t.* 85.—T. minutulum. *Gaud. in Freyc. Voy. p.* 377. *t.* 12. *f.* 2?

Bory (in Duperrey's Voyage) states that Gaudichaud's plant, originally from the Moluccas, had been found in Tahiti by Durville; and his figure, with the exception of the magnified extremity of the involucre, which is probably erroneous, answers pretty well to our plant.—This and the following belong to Desvaux's genus *Didymoglossum.*

3. Trichomanes *Filicula;* fronde lanceolata tripinnatifida glabra, laciniis linearibus obtusis integerrimis, involucris oblongo-cylindraceis, ore bilabiato, labiis ovatis acutiusculis.—*Bory in Duperrey Voy. v.* 1. *p.* 283.—T. bipunctatum. *Poir.*—Hymenophyllum Filicula. *Willd. Sp. Pl. v.* 5. *p.* 528.

Notwithstanding some slight difference between Willdenow's description and the above character, we believe our plant to be the same; the more so as Bory states that Durville has likewise met with it in Tahiti. We have long ago received it from Mr. Menzies, under the manuscript name of *T. bilingue.*

1. Alsophila *extensa;* frondibus triplicato-pinnatis, pinnis acuminatis, pinnulis lineari-oblongis obtusis serrulatis, rachi punctato-aspero, caudice arboreo.—Polypodium extensum. " *Forst. Prodr. n.* 453."—Cyathea extensa. *Sw. Syn. Fil. p.* 139 *et* 364. *Schkuhr, Fil. t.* 132.—Alsophila extensa. *Desv.*

We may here remark that Mr. Collie gives a list of fifty-two species of *Ferns* collected in Tahiti; whereas we can find only forty-one in the Collection; and, in Mr. Collie's notes, the *Sadleria* is not noticed.

ORD. LIII. MUSCI. *Juss.*

1. Octoblepharum *albidum. Hedw.*

1. Dicranum *bryoides; β. osmundioides. Arn. Disp. Musc. p.* 28.—D. osmundioides. *Engl. Bot. t.* 1662.

1. Orthotricum *apiculatum? Hook. Musc. Exot. t.* 45.

The specimen in the Collection is in a young state, so that we cannot be positive of its identity with the Mexican species; the calyptra, also, is here provided with a few hairs, while in the other it is decidedly glabrous.

1. Neckera *undulata. Hedw. Musc. Frond. v.* 3. *t.* 21.

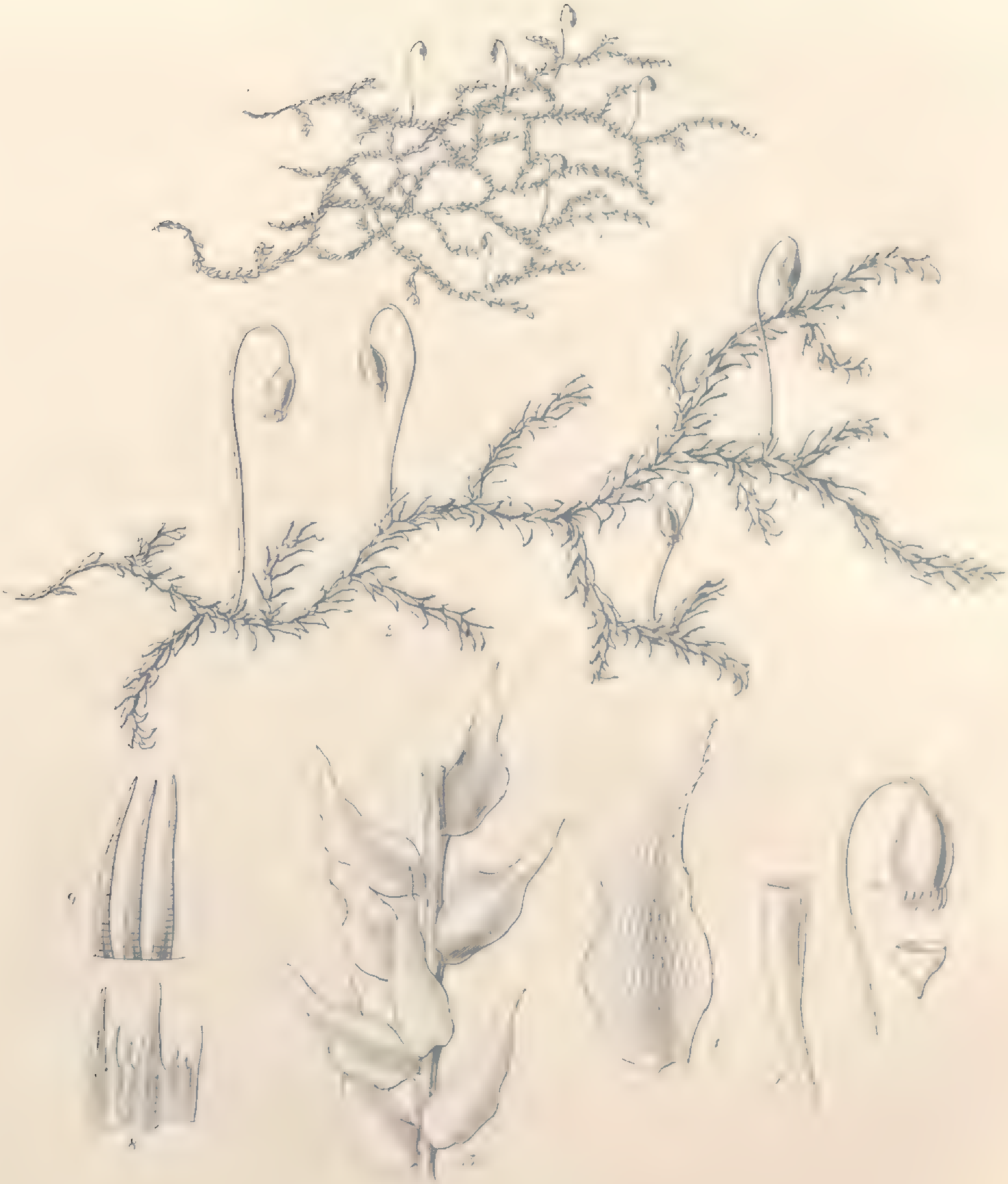
The *Hypnum duplicatum,* (Hedw. Sp. Musc. Supp. 3. t. 279,) gathered by Mr. Menzies in Tahiti, appears to us merely *Neckera pennata,* found there also by Durville.

2. Neckera *filicina. Hedw. Musc. Frond. v.* 3. *t.* 18.

1. Hypnum *Chamissonis. Hornsch. Hor. Phys. Ber. p.* 66. *t.* 13.

Our authentic specimens of *H. Chamissonis* differ from those in the Collection by having rather smaller thecæ; but we can perceive no other distinction. The theca is perfectly straight, and nodding (not cernuous) by the curvature of the top of the seta.

2. Hypnum *fuscescens;* caule vage ramoso laxe cæspitoso prostrato, foliis distichis sub-



Hypnum [illegible]

secundis ovatis acuminatis apice obscure serratis enerviis laxe reticulatis membranaceis nitidis, seta lævi apice arcuato-curvata, theca (parva) ovata brevi, operculo hemisphærico mucronato. (Tab. XIX.)

This plant is loosely tufted, and the mass exhibits a brownish hue, like many *Jungermanniæ*. Although the leaves be slightly secund, it belongs certainly to the distichous division.

Tab. XIX. Hypnum fuscescens. *Fig.* 1, Plants:—*natural size; fig.* 2, Single plant:—*magnified; fig.* 3, Portion of the stem, with leaves; *fig.* 4, Single leaf; *fig.* 5, Capsule; *fig.* 6, Lid; *fig.* 7, Calyptra; *fig.* 8, Portion of the inner peristome; *fig.* 9. Portion of the outer do.:—all more or less *magnified.*

Ord. LIV. HEPATICÆ. *Juss.*

1. Anthoceros *lævis. Linn.*

1. Jungermannia *multifida. Linn.*

Ord. LV. LICHENES. *Juss.*

1. Lecidea *Cocoes. Sw. Lich. Am. p.* 2. *t.* 2.

1. Parmelia *pannosa. Ach.—Sw. Lich. Am. p.* 6. *t.* 6.

The *Parmelia strigosa* and *Sandwichiana* of Gaudichaud in Freycinet's Voyage, and *Pannaria erythrocarpa* of Bory in Duperrey's Voyage, seem identical with this species.

2. Parmelia *calicarpa;* diffusa, thalli laciniis imbricatis latis rotundatis sinuatis plumbeis rugulosis gelatinoso-membranaceis, apicibus convexis, subtus intense fuscis subpubescentibus, apotheciis majusculis undulatis rufis margine crenato foliaceo.

The nearest affinity of this species is perhaps *P. colpodes* of Acharius, figured by Swartz in his American Lichens, t. 4. f. 3; but the laciniæ of the frond in our plant are much broader, and the margin of the apothecia more evident, crenate, lobed, and leafy.

1. Collema *Turneri;* thallo foliaceo membranaceo gelatinoso pellucido badio, lobis irregularibus plicato-undulatis, apotheciis sparsis majusculis convexis centro depressis fuscis, margine amplo rosulato foliaceo.

This *Collema* is perfectly distinct from any we have yet seen or can find described. It grows upon the trunks of trees, in large patches of a deep brown colour, and of a thin gelatinous texture, the laciniæ round, much waved, and crisped; the margin of the apothecia is very remarkable, forming a beautiful leafy circle around the fruit, and five or six times broader than the young fructifications. The *C. phyllocarpum* of Gaudichaud, (Freyc. Voy. p. 204,) from Brazil, differs in the glaucous colour of its foliage, but the margin of the apothecia appears to be the same.

1. Usnea *plicata. Ach. Syn. Lich. p.* 305.

1. Ramalina *homalea;* thallo compresso ancipiti lævigato nudo ramoso albo pallescente transversim subrimoso, ramis dichotomis attenuatis, apotheciis sparsis centro affixis concaviusculis subimmarginatis concoloribus. *Ach.*

α. cartilagineo-cornea subpellucida, apotheciis valde concavis.

β. cartilaginea opaca, apotheciis planiusculis.

We possess both these varieties from Mr. Menzies: the former, gathered in California, must be viewed as the true plant of Acharius. Both are in the present Collection, from Tahiti.

Ord. LVI. ALGÆ. *Juss.*

1. Macrocystis *Humboldtii. Ag. Syst. Alg. p.* 293.—M. pomifera. *Bory in Duperrey Voy. v.* 1. *p.* 94. *t.* 9.

1. Sphærococus *concinnus. Ag. Syst. Alg. p.* 234.—Fucus concinnus. *Turn. Hist. Fuc. t.* 153.

This agrees pretty well with the figure above quoted, but is rather more divaricated. Another plant exists in the Collection without fructification, but evidently allied to the present species, more slender in every part, the main branches being beset with numerous short simple ramuli, while the ultimate ones are subsecund.

ORD. LVII. FUNGI. *Juss.*

PHALLUS. *Mich.*

DIV. Hymenophallus. *Capitulum liberum reticulatum, pervium, inferne indusiatum. Fries.*

1. P. *Dæmonum.* (TAB. XX.) *Rumph. Amb. v.* 6. *p.* 131. *t.* 56. *f.* 7. *Fries, Syst. Mycol. v.* 2. *p.* 283.—Hymenophallus Dæmonum. *Spreng. Syst. Veget. v.* 4. *p.* 498.—Dictyophora phalloidea? *Léveillé in Mém. Soc. Linn. v.* 5. *p.* 507. *t.* 13.

Of this extraordinary and beautiful *Fungus*, no specimen exists in the Collection; but an admirable drawing has been kindly communicated to us by Captain Beechey, which he made from the recent plant in the island of Tahiti; and which, with a vertical section from the pencil of the same gentleman, gives a better idea of its structure than can be conveyed by words. The volva was probably omitted to be gathered. There can scarcely be a doubt of its being the same species with that figured by Rumphius: and it corresponds in so many particulars with the *Dictyophora phalloidea* of Léveillé, (the *P. indusiatus* of Vent. and Fries,) from South America, that probably the two species may safely be united. Its geographical range is certainly very extensive; being found in the interior of India, whence we have specimens from Dr. Wallich, gathered at Silhet.

TAB. XX. Phallus Dæmonum. *Fig.* 1, Plant, (exclusive of the volva); *fig.* 2, Vertical section of the same:—*natural size.*

SANDWICH ISLANDS.

[Comprising Oahu, Woahoo, or O-Wahu, and Oneeheow or Nihow.]

ORD. I. PAPAVERACEÆ. *Juss.*

1. Argemone *Mexicana. Linn.—De Cand. Prodr. v.* 1. *p.* 120.

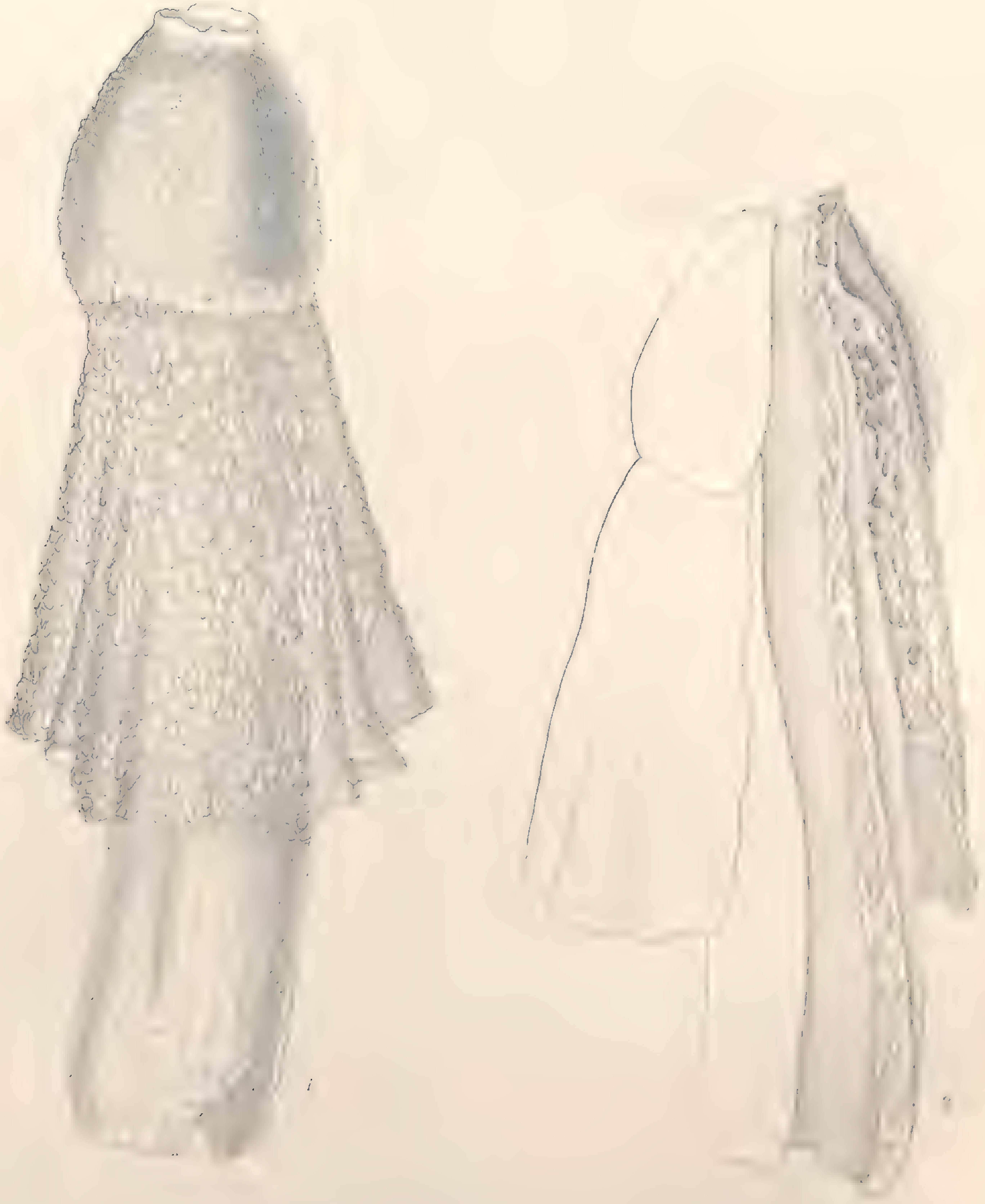
ORD. II. CRUCIFERÆ. *Juss.*

1. Lepidium *O-Waihiense;* siliculis suborbiculatis emarginatis, stigmate sessili incluso, foliis obovatis in petiolum attenuatis grosse serratis. *Cham. et Schlecht. in Linnæa, v.* 1. *p* 32.

The specimen before us agrees admirably with the description given in the above-mentioned work: it is however, extremely doubtful if it be distinct as a species from *L. piscidium.* The only specimen in the packet was from Oneeheow or Nihow; but it also occurred at Oahu, according to Mr. Collie's notes.

ORD. III. CAPPARIDEÆ. *Juss.*

1. Cleome *spinosa;* herbacea aculeata pubescens, foliis 5–7-foliolatis glabris, floralibus simplicibus petiolulatis ovato-cordatis, siliqua glabra thecaphoro longiore. *DC.—Linn.—De Cand. Prodr. v.* 1. *p.* 239.



Phallus Demonum Rumph.

[illegible]

Swan Sc.

ORD. IV. MALVACEÆ. *Juss.*

1. Malva *rotundifolia. Linn.—De Cand. Prodr. v.* 1. *p.* 432.

1. Hibiscus *Youngianus;* caule fruticoso velutino aculeato setifero, foliis cordatis subtrilobis dentato-serratis, involucelli foliolis 10 teretibus apice divaricato-bifidis.—*Gaud. in Freyc. Voy. p.* 91? (absque descriptione.)

Caulis fruticosus, dense velutinus, setis conspersus, aculeatus (secundum *Collie,* at aculei a nobis non visi.) *Ramuli* velutini setiferi. *Petioli* velutini duas pollices longi. *Folia* cordata, 3–5-lobata, angulis obtusis, lobo medio productiore, irregulariter dentato-serrata, petiolum longitudine æquantia, subtus velutina, supra scabra. *Pedunculi* solitarii, axillares, velutini, setiferi, petiolum vix superantes. *Involucelli* foliola 10 teretia hispido-setosa apice biloba, lobis parvis patentibus. *Sepala* 5 ad medium coalita, dense setifera, dorso margineque nervosa, reticulatim venosa. *Petala* "rosea" (*Collie.*) *Carpella* polysperma, truncata, dorso pilis albidis rigidis appressis dense tecta. *Semina* subreniformia, grisea, glaberrima.

We have no authority for supposing this to be the *H. Youngianus* of Gaudichaud, farther than that he states it to be a new species of the section *Furcaria* of De Candolle, to which ours certainly belongs, and is a species closely allied to *H. bifurcatus,* Cav. It was found in Oahu.

2. H. *Boryanus? De Cand. Prodr. v.* 1. *p.* 446.

From the imperfect state of the specimen before us, we cannot affirm it positively to be the plant of De Candolle. The leaves are ovate, slightly coriaceous, 3-nerved, perfectly smooth, and quite entire. The peduncles are short, scarcely an inch long, and very stout. The calyx 5-toothed, and split up on one side by the swelling of the fruit, as in De Candolle's section *Manihot.* The carpels are polyspermous, and the seeds covered with fulvous hairs. Perhaps, then, this is a new species, and more closely allied to *H. rhombifolius,* Cav.; but we possess a plant in flower from Owhyhee, collected by Mr. Macrae in Byron's Bay, which seems to be the same as ours: this certainly belongs to the section *Cremontia* by the nature of its corolla, and has toothed leaves, as in *H. Boryanus:* the flowers are, however, red, not white, and the leaves are 3-nerved, as in the specimen from Oahu.

1. Gossypium *indicum. Lam.—De Cand. Prodr. v.* 1. *p.* 456. *Cav. Diss.* 3. *t.* 169. *Rumph. Amb. v.* 4. *t.* 12.

1. Sida *ulmifolia;* foliis ovato-cordatis acutis serratis glabriusculis, pedicellis solitariis 1-floris petiolo subæqualibus, carpellis 5 longe birostratis.—*Cav. Diss.* 1. *p.* 15. *t.* 2. *f.* 4? *De Cand. Prodr. v.* 1. *p.* 464?

Found in Oahu, where it was also met with by Mr. Macrae. It differs principally from *S. ulmifolia* of Cavanilles, by the leaves being not acuminated and scarcely at all pubescent; but we do not consider it a distinct species.

2. S. *rotundifolia. Cav. Diss.* 1. *p.* 20. *t.* 3. *f.* 6. *et t.* 194. *f.* 2. *De Cand. Prodr. v.* 1. *p.* 464.

There are three states of this species in the Collection; one with the pedicels solitary, and this appears to be the type of the species; another with the pedicels in pairs, and also densely clustered or umbellate at the tops of the short young branches, but differing from the former in no other respect; the third has the leaves much smaller and rounder than either of the others, and the peduncle solitary. We might have been disposed to have separated these into as many distinct species, but Mr. Collie, whose notes are before us, calls them all by the manuscript name of *S. inæqualis,* stating that their vernacular appellation is *Irima;* while, again Gaudichaud remarks that *Rima, Irima,* and *Ouirima,* are all applicable to *S. rotundifolia.*

ORD. V. BYTTNERIACEÆ. *Br.*

1. Waltheria *Americana. Linn.—De Cand. Prodr. v.* 1. *p.* 492.—W. indica. *Linn.*—

Jacq. Ic. Rar. 1. *t.* 130. *De Cand. Prodr. v.* 1. *p.* 493.—W. arborescens. *Cav. Diss.* 6. *t.* 170. *f.* 1.

Upon the same specimen there is frequently a transition from the sessile to the long peduncled heads of flowers, and from ovate to oblong leaves.

ORD. VI. GUTTIFERÆ. *Juss.*

1. Clusia *sessilis;* floribus axillaribus solitariis subsessilibus 4-petalis, foliis obovatis ellipticisque. *DC.*—" *Forst. Prodr. n.* 391." *De Cand. Prodr. v.* 1. *p.* 559.

Our specimens are not in flower, but appear to be the plant of Forster. They were among the Oahu Collection, but Mr. Collie has not noticed them in his notes.

ORD. VII. SAPINDACEÆ. *Juss.*

1. Cardiospermum *Halicacabum. Linn.—De Cand. Prodr. v.* 1. *p.* 601.

1. Dodonæa *viscosa. Linn.—De Cand. Prodr. v.* 1. *p.* 616.—D. spathulata. *Sm. in Rees' Cycl. De Cand. Prodr. v.* 1. *p.* 616.

ORD. VIII. OXALIDEÆ. *Juss.*

1. Oxalis *repens. Thunb.—Jacq. Ox. n.* 11. *t.* 78. *f.* 1. *De Cand. Prodr. v.* 1. *p.* 693.

Our specimens, found at Oneeheow, are neither in flower nor in fruit, and we should have referred them to *O. corniculata,* but Gaudichaud having mentioned *O. repens* as a native of the Sandwich Islands, and not *O. corniculata,* we have retained the above name.

ORD. IX. ZYGOPHYLLEÆ. *Br.*

1. Tribulus *cistoides. Linn.—Jacq. Hort. Schœnbr. t.* 103. *De Cand. Prodr. v.* 1. *p.* 703.

The juice squeezed from the roots of this plant is employed by the natives as an emetic. Eight full grown roots supply enough for one dose. (*Collie.*)

ORD. X. RHAMNEÆ. *Juss.*

1. Ceanothus *Asiaticus. Linn.—Cav. Ic. v.* 5. *t.* 440. *f.* 1. *De Cand. Prodr. v.* 2. *p.* 30.—Colubrina Asiatica. *Brong.*

ORD. XI. TEREBINTHACEÆ. *Juss.*

1. Brunellia *Sandwicensis;* foliis oppositis simplicibus oblongis integerrimis supra glabris subtus minutissime pubescentibus, racemis simplicibus paucifloris axillaribus.—*Gaud. in Freyc. Voy. p.* 93? (absque descriptione.)

Our specimen, found in Oahu, is in a very imperfect state; still we have little hesitation in believing it to be the same with the species noticed by Gaudichaud, and also by Adrien de Jussieu, in his Memoir on the *Rutaceæ.* The young branches, peduncles, and pedicels are pubescent, as also the carpels. In the specimen before us, the peduncle has only three flowers, one of which is terminal, and the other two are lateral and opposite to each other, all of them pedicellate. Although, following De Candolle's Prodromus, we have placed this genus in *Terebinthaceæ,* Jussieu appears to us to have done right in referring it to the *Rutaceæ,* near *Zanthoxylon.*

ORD. XII. LEGUMINOSÆ. *Juss.*

1. Tephrosia *piscatoria. Pers.—De Cand. Prodr. v.* 2. *p.* 252.—T. toxicaria. *Gaud. in Freyc. Voy. p.* 93?

We have already described this species at page 62.

1. Dolichos *luteus. Swartz?—De Cand. Prodr. v.* 2. *p.* 398?

1. Vigna *villosa. Savi.—De Cand. Prodr. v.* 2. *p.* 401.

Found in Oahu.—The want of authentic materials, and the imperfect descriptions hitherto given of *Dolichos* and the allied genera, render an accurate determination of the species next to impossible. If we be correct, this plant has only been previously met with in Chili.

1. Canavalia *pubescens;* caule volubili, ramulis petiolisque pubescentibus, foliolis ovato-ellipticis breviter acuminulatis basi subobliquis membranaceis supra glabris subtus pubescentibus, pedunculis axillaribus trifloris.

This was found in Oneeheow.—The two upper lobes of the calyx are very large and rounded, the lower ones oblong and obtuse. As a species, it is very closely allied to *Dolichos galeatus,* (Gaud. in Freyc. Voy. p. 486. t. 115,) which is also a *Canavalia,* but that has perfectly smooth acuminated leaves, and the lower divisions of its calyx are lanceolate and acute.

1. Mucuna *altissima. De Cand. Prodr. v.* 2. *p.* 405.—Dolichos altissimus. *Jacq. Amer. t.* 182. *f.* 85.

The specimen in the Collection, as well as one collected by Mr. Macrae at Byron's Bay, in Owhyhee, is not in fruit.

1. Erythrina *monosperma;* arborea inermis, foliolis late ovato-reniformibus obtusis subtus calycibusque molliter fuscescenti-tomentosis, fructibus monospermis. *Gaud. in Freyc. Voy. p.* 486. *t.* 114.

We have seen only the leaves, but we think there can be no doubt as to the plant.

1. Acacia *heterophylla*; phyllodiis linearibus utrinque attenuatis subfalcatis multinerviis, sæpe etiam in ramis adultis folio bipinnato terminatis, capitulis subracemosis. *DC.—Willd. Sp. Pl. v.* 4. *p.* 1055. *De Cand. Prodr. v.* 2. *p.* 452.—A. laurifolia. *Willd. Sp. Pl. v.* 4. *p.* 1053. *De Cand. Prodr. v.* 2. *p.* 451.—Mimosa simplicifolia. *Linn. Suppl.*—M. Mangium. "*Forst. Prodr. n.* 395."

Gaudichaud remarks of this species, that in the more elevated parts of the island, its *phyllodia* always bear bipinnate leaves, but that in the lower districts these disappear; also, that the higher up they grow, the narrower are the *phyllodia,* while below they are broader, being linear-lanceolate, lanceolate, and sometimes oval. In the specimens found by Mr. Menzies, the *phyllodia* are considerably broader than in those in the present Collection, so that we have not hesitated to unite again, as had been formerly done by Lamarck, the *A. laurifolia* with the present species. The peduncles sometimes bear only one head of flowers; but more commonly, and on the same plant, they form a raceme.

1. Guilandina *Bonduc. Linn.—De Cand. Prodr. v.* 2. *p.* 480.

1. Cassia (Sect. *Chamæsenna. DC.*) *Gaudichaudi;* caule fruticoso, foliolis 4-jugis elliptico-oblongis apice subemarginatis glabris subtus pallidis, glandula lineari tenui obtusa inter

infimum foliolorum par, stipulis subulatis, racemis axillaribus erectis folio brevioribus, legumine pendulo lineari compresso membranaceo sub-8-spermo.

This species seems to have been observed by Gaudichaud (Freyc. Voy. p. 94.) to whom we have dedicated it; but he says that the pods are narrow and short, which does not well apply to ours. The whole plant is perfectly smooth; the leaves about six inches long, and the leaflets an inch and a half; these last are on short petioles, about a line in length: the lower pair only are provided with a slender filiform gland, rather more than half a line long, which is incrassated and blunt, not acute at the apex as in *C. oxyadena*, to which this species seems allied. The pod is about three lines broad, and 3–4 inches long, very compressed and membranaceous, suddenly and shortly attenuated at both extremities. There are complete septa between the seeds, which are flat and almost black.

Ord. XIII. ROSACEÆ. *Juss.*

1. Osteomeles *anthyllidifolia. Lindl. in Linn. Soc. Tr. v.* 13. *p.* 98. *t.* 8. *De Cand. Prodr. v.* 2. *p.* 633.—Pyrus anthyllidifolia. *Sm. in Rees' Cycl.*

Ord. XIV. ONAGRARIÆ. *Juss.*

1. Jussiæa *angustifolia;* herbacea erecta glabra, foliis subsessilibus lineari-lanceolatis utrinque acuminatis, floribus brevissime pedicellatis, calycis lobis 4 acutissimis, tubo cylindraceo elongato. *DC.—Lam. Dict.* 3. *p.* 331. *Ill. t.* 280. *f.* 3. *De Cand. Prodr. v.* 3. *p.* 55.

We agree with Gaudichaud in referring the species found in Oahu to *J. angustifolia.* The leaves, however, are slightly petiolate, and the lobes of the calyx, although acute, are not remarkably so. Mr. Collie, in his notes, remarks that the petals are obovate, rotundate, and emarginate; their claws, internally, and the bases of the stamens, are somewhat villous.

Ord. XV. LYTHRARIÆ. *Juss.*

1. Lythrum *maritimum;* caule fruticoso, foliis oppositis et sparsis lanceolatis acutis basi obtusis subtus glaucescentibus, floribus breviter pedicellatis erectis bibracteolatis 6-petalis 6-andris. *DC.—Humb. et Kunth, Nov. Gen. v.* 6. *p.* 193. *De Cand. Prodr. v.* 3. *p.* 82.

This we possess, from the same country, from Mr. Menzies, Mr. Macrae, and Chamisso.

Ord. XVI. MYRTACEÆ. *Juss.*

1. Metrosideros *polymorpha;* foliis oppositis breve petiolatis coriaceis utrinque glabris vel subtus sericeo-tomentosis, pedunculis tri-multifloris terminalibus et axillaribus corymbosis, floribus pedicellatis, calycibus ramulisque glabris vel sericeo-tomentosis.—*Gaud. in Freyc. Voy. p.* 482. *t.* 108 *et* 109. *De Cand. Prodr. v.* 3. *p.* 225.

α. Foliis subrotundo-ellipticis cordatis.—β. Foliis ovatis vel ovato-ellipticis basi rotundatis.—γ. Foliis oblongis basi acutis.—δ. Foliis lanceolatis.

These varieties, again, but particularly the first, occur either perfectly smooth or more or less tomentose. Specimens of all of them are in the Collection, and we possess, in addition, several distinct forms of the second variety, collected by Mr. Macrae. Var. β. was found long ago by Mr. Menzies, but was probably confounded by Smith with his *M. villosa*, to which it is indeed too closely allied, and perhaps only distinguishable by the pedicellate flowers. This appears, according to Gaudichaud's valuable observations, to be a most variable plant. Nothing, says he, is more remarkable than the *M. polymorpha*, which is found with linear leaves towards the summit of the mountain, but successively linear-lanceolate, lanceolate, ovate, obovate,

elliptical, round, and even heart-shaped foliage, in descending; and which, from smooth and shining, as in the first instance, become pubescent, downy, and more and more tomentose. Were it not for such authority, we might have been induced to make several species out of this. Some forms of var. β. are very closely allied to *M. diffusa,* (page 63,) and are chiefly distinguishable from it by the shape of the inflorescence, and the much larger calyx and flower. The petioles, which, in the present plant we have termed short, are not more than one-fourth of the length of the leaf; this is, however, common to most of the genus, but not to the following species.

2. Metrosideros *macropus;* foliis oppositis ovatis longe petiolatis coriaceis glabris, corymbis terminalibus, floribus pedicellatis, bracteis bracteolisque oblongo-lanceolatis per inflorescentiam subpersistentibus, calycibus pedicellisque glabris.

Rami cortice griseo tecti. *Folia* opposita, ovata, vel elliptico-ovata, basi obtusa, duas vel tres uncias longa, sesquiunciam ad duas uncias lata, coriacea, integerrima, glabra, supra nitida, utrinque parallelim venosa, inter venas reticulata, margine plano; *petiolus* unciam vel sesquiunciam longus, folio dimidio brevior. *Corymbi* multiflori, basi bracteis oblongo-lanceolatis semiunciam longis involucrati. *Pedunculi* pedicellique glabri, basi bracteolis inflorescentia peracta vel citius deciduis suffulti. *Calyx* turbinatus, lævis, quinquelobus, lobis obtusis. *Petala* lobis longiora. *Capsula* calyce persistente infra medium cincta, globosa, 3-valvis, loculicida. *Semina* aptera, subulata, lineam longa.

We have been enabled to draw up this description more fully by means of specimens collected by Mr. Macrae. It must be remarked that the character in which we were once inclined to place most confidence, the peculiarly conspicuous bracteas during the first stage of flowering, is sometimes so considerably impaired, that were it not for the uniformly long petioles, double the length, in proportion to that of the leaf, of those in *M. polymorpha, M. diffusa,* and their allies, we had almost arranged it as a variety of the former.

1. Jambosa *Malaccensis;* cymis lateralibus abbreviatis, foliis ovato-lanceolatis utrinque attenuatis. *De Cand. Prodr. v.* 3. *p.* 286.—Eugenia Malaccensis. *Linn.—Corr. Ann. Mus.* 9. *p.* 292. *t.* 25. *f.* 2.

Ord. XVII. CUCURBITACEÆ. *Juss.*

1. Lagenaria *vulgaris. Ser. in De Cand. Prodr. v.* 3. *p.* 299.—Cucurbita Lagenaria. *Linn.*

1. Cucumis *Melo. Linn.—De Cand. Prodr. v.* 3. *p.* 300.

1. Sicyos *pachycarpus;* ramis glabris, foliis cordatis 5–7-lobatis denticulatis supra glabris subtus papilloso-scabris, cirrhis glabris trifidis, floribus masculis paniculatis fœmineis capitato-congestis, fructibus ovatis rostratis inermibus.

The leaves are decidedly but not deeply five or sometimes seven-lobed; smooth on their upper surface, except towards the margin, where they are furnished with small white tubercles, similar to those which cover the whole underside, and make it rough to the touch. The male flowers are in branched panicles; the panicle on a peduncle about two inches long, which is axillary; the perianth is five-cleft; all the filaments are connected together into a tube, at the top of which are five sessile anthers, forming a little head. The female flowers are numerous in each capitulum: they are sessile; but the capitulum itself is on a peduncle, about three-fourths of an inch long, that springs from the same axil with that which supports the males. The fruit is ovate, about a line and a half long, suddenly attenuated into a beak which is almost half the length of the broad portion: many fall off before maturity, leaving only four or five to each peduncle: there are no spines, but the surface appears somewhat uneven. There is one seed in each.—This species appears most nearly allied to *S. microphyllus,* H. B. K., but differs in many particulars. It was collected by Mr. Collie among the volcanic rocks on Diamond Hill, in Oahu.

ORD. XVIII. FICOIDEÆ. *Juss.*

1. Sesuvium *portulacastrum. Linn.—De Cand. Prodr. v.* 3. *p.* 453.—Aizoon Canariense. *Andr. Bot. Rep. t.* 201.

ORD. XIX. SAXIFRAGEÆ. *Juss.*

1. Broussaisia *arguta. Gaud. in Freyc. Voy. p.* 479. *t.* 69. *De Cand. Prodr. v.* 4. *p.* 17.

This is a small-sized tree, the branches being soft and spongy, and filled with pith. The leaves are opposite; the petioles are short, and furnished with a remarkable dilatation or appendage at their back, where they spring from the branch. This dilatation is not connected with the branch by any vessels; but when the leaf falls off, which it does very readily, it leaves a heart-shaped scar, so large as almost to meet that at the base of the opposite leaf. De Candolle places this in the *Saxifrageæ*, close to *Hydrangea* and *Deutzia*, to the former of which genera it is allied in habit: but the style, which is very short, has a truncate and simple, although indistinctly lobed stigma; and the ovarium has five cells, and is perfectly free from the calyx.

ORD. XX. UMBELLIFERÆ. *Juss.*

1. Hydrocotyle *interrupta;* foliis peltatis duplicato-crenatis 11-nerviis petiolisque glabris, floribus in verticillos subdistantes plurimos dispositi, ultimis umbellatis, fructu basi subattenuato colorato. *DC.—Muhl. Cat. p.* 10. *De Cand. Prodr. v.* 4. *p.* 59.—H. vulgaris. *Mich.—Rich. Hydr. t.* 50. *f.* 1. *b.*

ORD. XXI. ARALIACEÆ. *Juss.*

1. Panax? *Guadichaudi;* caule arboreo glabro inermi, foliis digitatis petiolatis superioribus oppositis, foliolis quinque longe petiolulatis ovato-ellipticis obtusis remote et argute serratis coriaceis, pedunculis terminalibus umbellas paniculatim dispositas gerentibus, pedicellis brevissimis, stylis 3, fructibus globoso-trigonis 3-spermis. *De Cand. Prodr. v.* 4. *p.* 253.—Aralia trigyna. *Gaud. in Freyc. Voy. p.* 474. *t.* 98.

The panicles are much shorter than the leaves. Two of the leaflets are often abortive, so that the leaves appear ternate. The three styles render it dubious whether to place this species in *Aralia* or *Panax.* It was first discovered long ago by Mr. Menzies, from whom we have a specimen in our herbarium.

2. Panax? *ovatum;* caule arboreo glabro inermi, foliis petiolatis superioribus oppositis, foliolis tribus longe petiolulatis ovatis integerrimis coriaceis.

The whole plant, as far as we can judge from the individual before us, is quite glabrous. The petioles are opposite, about three or four inches long: the partial ones about an inch or an inch and a half. The leaflets are broadly ovate, not acuminated, but slightly obtuse; the upper surface is glossy; the margin perfectly entire. There is neither flower nor fruit on the only specimen in the Collection, which was found in Oneeheow; but it is very nearly allied to the last species.

3. Panax? *platyphyllum;* caule arboreo glabro inermi, foliis petiolatis superioribus oppositis, foliolis tribus longe petiolulatis transversim oblongis longitudine duplo latioribus apice subiter apiculatis coriaceis integerrimis, pedunculis terminalibus umbellas paniculatim dispositas gerentibus.

Caulis arboreus, inermis, glaber ut tota planta. *Folia,* saltem superiora, opposita: petiolus 4 uncias et petioli partiales duas longi: *foliola* circumscriptione valde singulari, tres fere uncias longa et tantummodo sesquiunciam lata, vix emarginata at breve apiculata, venis plurimis parallelis divergentibus. *Panicula*

magna, folium subæquans: *pedunculus* sesquiunciam longus; rami 6–8 oppositi, sesquiunciam longi, apicem versus iterum duos vel tres ramulos oppositos gerentes; pedicelli umbellati quaterni, duas lineas longi. *Styli* duo brevissimi.

This is a very remarkable species, and we have seen it in no other collection. The flowers are not expanded, so that we cannot describe the fruit. It was among the plants found in Oahu, but no notice has been taken of it in Mr. Collie's notes.

Ord. XXII. RUBIACEÆ. *Juss.*

1. Petesia? *terminalis;* foliis oblongis basi obtusis apice acutiusculis membranaceis glabris, paniculis terminalibus racemosis folio dimidio brevioribus, corollæ hypocrateriformi lobis tubo brevioribus, stylo bifido.

Caulis dichotome ramosus. *Folia* oblonga, basi obtusa, apice acuta vel obtusiuscula, membranacea, glabra, tres vel quatuor uncias longa, unciam vel sesquiunciam lata. *Petiolus* brevis lineam longus. *Stipula* interpetiolaris, lata, brevis, mucronulata. *Pedunculus* terminalis. *Calycis tubus* ovato-globosus; limbus brevis, 4-dentatus. *Corolla* infundibuliformis, 4-loba, antheras includens. *Stylus* apice bifidus. *Fructus* baccatus, bilocularis, loculis polyspermis.

This has much the habit of *Stylocoryne racemosa,* Cav., but cannot be placed in that genus, on account of the quadridentate calyx and bifid style.

2. Petesia? *coriacea;* foliis oblongis basi subacutis apice obtusis coriaceis glabris, corymbis terminalibus densis paucifloris folio multo brevioribus.

We only possess this in a very imperfect state: there is no corolla, but the mature fruit is a dry bilocular polyspermous berry, as in *P.? terminalis,* exhibiting the remains of four teeth at the apex. It is closely allied to the last species, but the leaves are more obtuse and coriaceous.

1. Kadua *cordata;* ramulis teretiusculis, foliis sessilibus superioribus cordatis acuminatis, cyma di-trichotoma foliosa, capsula turbinato-hemisphærica erostrata.—*Cham. et Schlecht. in Linnæa, v.* 4. *p.* 160. *De Cand. Prodr. v.* 4. *p.* 431.

In our specimens, all the leaves are perfectly sessile: those towards the bottom of the branch are oblongo-lanceolate, while a pair of cordate ones subtend each division, both general and partial, of the inflorescence, giving it a remarkable bracteated appearance. Of this we possess the lower leaves only, in a specimen from Mr. Menzies.

2. Kadua *glomerata;* ramulis inferne teretiusculis superne compressis, foliis oblongo-lanceolatis basi subiter in petiolum brevissimum contractis, panicula terminali, ramis elongatis oppositis apice bracteas duas foliaceas floresque glomeratos gerentibus, calyce corollaque pubescentibus.

The flowers may be said to be in axillary pedunculate capituli, if the axis of the panicle be viewed as a continuation of the branch. The calyx and corolla are pubescent: the teeth of the calyx are linear and very rigid. *Hedyotis conostyla,* Gaud. in Freyc. Voy. p. 471. t. 94, is a species of *Kadua,* bearing considerable affinity to the present. We possess also from Mr. Macrae another allied species, *K. centranthoides;* ramulis inferne teretiusculis superne compressis, foliis cordato-lanceolatis subsessilibus, panicula terminali, ramis brevibus oppositis apice flores subnudos glomeratos gerentibus, calyce corollaque glabris.

3. Kadua *acuminata;* ramis teretibus versus apicem compressis, foliis lanceolatis longe acuminatis distincte petiolatis subcoriaceis, stipulis triangulari-acuminatis, floribus axillaribus subbinis pedicellatis, calycis dentibus anguste lanceolatis corollæ tubum æquantibus, capsula globosa.—*Cham. et Schlecht. in Linnæa, v.* 4. *p.* 163. *De Cand. Prodr. v.* 4. *p.* 431.

We have drawn up, for this and *K. cordata*, characters somewhat different from those given by De Candolle, in order that they might suit the specimens before us. With regard to *K. Menziesiana*, the *Hedyotis coriacea* of Smith is by no means the same, although also a species of this genus. This last may be called *K. Smithii;* ramis teretibus versus apicem compressis, foliis coriaceis ovato-ellipticis glabris petiolatis, stipulis triangularibus obtuse apiculatis, panicula terminali trichotoma densa, calyce corollaque pubescentibus. The tube of the corolla is long, and has the segments of the limb strongly deflexed, with long acuminated recurved points.

1. Myonima *umbellata;* foliis obovatis et obovato-oblongis, pedunculis axillaribus apice multifloris, pedicellis 7–8 umbellatis, baccis subrotundis, dentibus calycinis acutiusculis brevissimis. *De Cand. Prodr. v.* 4. *p.* 463.

1. Coffea *Kaduana;* foliis cuneato-obovatis in axillas venarum scrobiculatis margine reflexis junioribus sæpe subtus rufescente-pubescentibus, stipulis ovatis acutis margine cicatricis interiori ciliato, cyma terminali longe pedunculata 5-radiata radiis 4 verticillatis, corollis 5-fidis fauce nuda.—*Cham. et Schlecht. in Linnæa, v.* 4. *p.* 33. *De Cand. Prodr. v.* 4. *p.* 502.

We have not observed that the segments of the calyx are ciliated, as the above-mentioned authors describe them, although the bracteolæ are so.

2. Coffea *Chamissonis;* foliis elliptico-oblongis in axillis venarum scrobiculatis margine reflexis utrinque glaberrimis, stipulis ovatis caducis margine cicatricis glabro, cyma terminali longe pedunculata 5-radiata radiis 4 verticillatis, corollis 5-fidis fauce nuda.

It is unnecessary to give a more detailed description, so similar is this species to the last. It principally differs by the leaves, even the younger ones being quite glabrous, and by the absence of the fringe of short red hairs at the upper margin of the cicatrice, upon the fall of the leaves: the bracteolæ, also, are free from any ciliation. In both, the shape of the fruit is precisely the same, being turbinate, with often one abortive cell.—There are fragments of some more *Rubiaceous* plants in the Collection, but too imperfect to be made out.

ORD. XXIII. COMPOSITÆ. *Juss.*

1. Bidens *luxurians;* foliis lanceolatis petiolatis argute serratis radicalibus subincisis, floribus radiatis erectis, involucro anthodium æquante. *Spr.—Willd.*—B. arguta. *Humb. et Kunth, Nov. Gen. v.* 4. *p.* 231.

The specimen before us is so very imperfect, that we have preferred referring it as above, to constituting a new species of it, although it differs slightly in several points from the detailed description given by Kunth. It is allied to our *B. paniculata*, (page 66.)

2. Bidens *micrantha;* suffruticosa glaber, foliis ternatis, foliolis argute serratis ovato-oblongis acuminatis terminali majore bi-trifido, corymbis terminalibus trichotomis foliatis, floribus radii 4–5, fructibus linearibus compressis falcatis glabris apice biaristulatis. *Gaud. in Freyc. Voy. p.* 464.

1. Gnaphalium *Sandwicensium;* caule ramoso foliisque tomentoso-lanatis lineari-lanceolatis subspathulatis, corymbis terminalibus subcapitatis. *Gaud. in Freyc. Voy. p.* 464.

This appears to us to have considerable affinity to *Elichrysum gnaphalioides.* H. B. K.

1. Erigeron *multiflorus;* glaber, caule herbaceo, foliis lineari-lanceolatis basi in petiolum longum attenuatis integerrimis, panicula ramosissima compacta, ramis nudis, ramulis squamatis, squamis involucri oblongo-lanceolatis, radio involucrum subæquante.

There is only one specimen in the Collection, and in it the stem is simple below the panicle.

2. Erigeron *pauciflorus;* caule fruticoso ramoso glabro, ramulis pubescentibus, foliis confertis glabris cartilagineo-serrulatis lineari-lanceolatis basi attenuatis atque ciliatis, junioribus subpubescentibus, panicula terminali corymbosa, ramis 2–4-floris nudis, squamis involucri oblongis acutis, radio involucrum subæquante.

In many respects very closely allied to *E. linifolius,* W., and still more to *E. Canadensis.* We have it also from Mr. Macrae. The stigmas are long, linear, and papillose, almost as in *Eupatorium.*

1. Aster *subulatus. Mich.—Spreng. Syst. Veget. v.* 3. *p.* 532.

1. Verbesina *lobata;* fruticosa, foliis ovatis digitato-tri-quinquelobis argute et grosse serratis utrinque hispido-scabris canescentibus lobo medio elongato lanceolato. *Gaud. in Freyc. Voy. p.* 464.

We do not observe in our specimens that the leaves are distinctly digitate, they are merely deeply lobed, but otherwise they agree with the above character given by Gaudichaud. They are opposite and very rugose. The stem is scabrous. The flowers are on long peduncles. The involucrum is double, the exterior of five broadly ovate coriaceous leaves; the inner smaller, five-leaved, and membranaceous. The florets of the ray are about nine in number, and yellow. The receptacle paleaceous. The achenia of the ray are trigonal, and crowned with three awns; those of the disk compressed, and with two aristæ.—Of this there are in the Collection fragments of a variety, or perhaps a closely allied species, with the leaves not at all lobed, but differing in no other particular.

2. Verbesina *hastulata;* suffruticosa, foliis oppositis breve petiolatis ovato-lanceolatis 3-nervibus versus basin utrinque sursum lobulatis grosse serratis supra scabris subtus hispidis.

We almost incline to suppose that *V. connata,* (Gaud. in Freyc. Voy. p. 464,) may be the same with this, being found in the same island, and possessing many points in common: but that author says that in his species the leaves are sessile and connate, whereas, in ours, they are shortly but decidedly petiolate. There is only one specimen in the Collection.

3. Verbesina *succulenta;* herbacea glabra nitida succulenta, foliis oppositis oblongo-ovatis apice obtusis mucronulatis basi in petiolum attenuatis supra medium crenulato-serratis.

Found among volcanic rocks on the shore of the island of Oneeheow, where it is called *Nehe* or *Neneha.* The lower part of the leaf is quite entire. The peduncles are terminal and solitary, and the leaves of the involucre orbicular. The receptacle is convex: the achenia are compressed or trigonal, one of the angles being exceedingly sharp, or almost produced into a wing, which is denticulate: they are crowned by two or three short aristæ, according to the number of angles. We feel uncertain as to the genus: the character agrees sufficiently with that of *Verbesina,* but the habit is more that of *Spilanthes* or *Acmella.*

1. Dubautia *laxa;* foliis oblongo-lanceolatis basi attenuatis argute serratis subtus strigoso-hispidis, panicula corymbosa laxa nudiuscula.

If Gaudichaud be correct in his description, our species cannot be the same as his, which may be characterised thus: *D. plantaginea;* foliis amplexicaulibus lineari-lanceolatis acuminatis crenatis glabris, panicula

foliata, floribus fasciculatis. Gaud in Freyc. Voy. p. 469. t. 84.—It must be observed, however, that his specimens seem to have been even less advanced than ours, and this circumstance may also account for the slight difference in the generic character, which we shall now give as more suited to the specimen before us:—DUBAUTIA. *Gaud.;* Involucrum campanulatum suboctophyllum, foliolis liberis margine sibi mutuo incumbentibus. Flores 8–10, tubulosi, hermaphroditi. Filamenta linearia, apice vix incrassata. Stigmata dilatata acuta ciliata. Achenium oblongum. Pappus paleaceus dorso et margine setis patentibus rigidis plumosus.—*Suffrutices, ramis apice foliosis, inferne nudis, cicatriso-annulatis. Folia opposita, sessilia, basi subconnata, rigida, parallele venosa. Paniculæ terminales; ramis hispide setosis.*—This genus is most allied to *Tridax* and *Craspedia.* It has also some affinity to the new genus *Railliarda,* of which we possess three new species from Mr. Menzies and Mr. Macrae, all from the Sandwich Islands.

ORD. XXIV. LOBELIACEÆ. *Juss.*

1. Lobelia (Delissea) *acuminata;* ramosa, foliis oblongis duplicato-denticulatis utrinque hirtellis, calycibus 5-dentatis. *Gaud. in Freyc. Voy. p.* 457. *t.* 76.

As the characters of *Delissea* and the two following genera, whether they be viewed as distinct genera, or only as sections of *Lobelia,* are only to be found in the above-quoted work, we shall transcribe them here.—DELISSEA. *Gaud.;* Calyx ovario arcte adnatus, limbus liber 5-dentatus persistens. Corolla tubulosa, arcuata, decidua, tubo cylindraceo indiviso, limbo 5-partito subbilabiato. Stamina 5; filamenta in tubum liberum connata; antheræ cohærentes, 2 inferiores barbatæ. Stigma bilobum, pilis cinctum. Capsula baccata, calyce persistente coronata, bilocularis non dehiscens. Semina creberrima.

2. Lobelia (Cyanea) *Grimeseiana.—Gaud. in Freyc. Voy. p.* 458. *t.* 75.

The character of this sub-genus is:—CYANEA. *Gaud.;* Calyx ovario adnatus 10-sulcatus; limbus foliaceus longior 5-partitus, laciniis oblongis margine reflexis et undulato-crispis. Corolla tubuloso-cylindracea, arcuata, limbo 5-partito subbilabiato. Stamina 5: tubus stamineus liber. Antheræ connatæ, barbatæ. Capsula baccata, sulcato-decagona, indehiscens, bilocularis, calyce persistente coronata. Semina creberrima.

3. Lobelia (Rollandia) *lanceolata;* ramosa, foliis magnis oblongo-lanceolatis duplicato-dentatis subtus hirtellis, calycibus 5-partitis glabris, laciniis ovatis obtusis, racemis depauperatis, staminibus epipetalis. *Gaud. in Freyc. Voy. p.* 458. *t.* 74. (R. montana.)

The specimen in the Collection has much larger leaves than that figured by Gaudichaud, to which another in our herbarium, from Mr. Macrae, exactly corresponds; but to the latter the term *folia magna* can scarcely be applied, while those before us well deserve the name, being from a foot to a foot and a half long. Gaudichaud thus characterises ROLLANDIA:—Calyx ovario arcte adnatus; limbus liberus 5-partitus, laciniis abbreviatis obtusis. Corolla tubulosa, lateribus compressa arcuata, tubo indiviso, limbo 5-partito subbilabiato. Stamina 5; tubus stamineus inferne parti superiori corollæ adnatus. Antheræ cohærentes barbatæ. Stigma bilobum pilis cinctum. Capsula baccata, indehiscens, bilocularis, calyce persistente coronata. Semina creberrima.—The genus *Clermontia,* Gaud., was not observed during the expedition under Capt. Beechey: we, however, possess *C. oblongifolia* and *grandiflora,* Gaud., from Mr. Macrae. This differs from the former genera by the calyx being coloured, tubular, curved, and as long as the tube of the corolla.

4. Lobelia *macrostachys;* glaberrima, caule elato stricto, foliis lineari-lanceolatis utrinque attenuatis subcrenatis, racemo simplici terminali longissimo, pedicellis simplicibus secundis horizontalibus apice sursum vergentibus, bractea lineari pedicello breviore, calycis tubo hemisphærico, limbi laciniis obtusis, corolla pedicello duplo longiore.

Calyx ovario arcte adnatus; limbus liber, 5-partitus; laciniis oblongis, obtusis, tubum æquantibus. *Corolla* tubulosa, duas ad tres uncias longa, arcuata; tubus cylindraceus 5-fidus, hinc fissus. *Stamina* 5;

menta in tubum liberum connata. *Antheræ* cohærentes, duæ inferiores barbatæ, cæteræ glabræ. *Stigma* bilobum; lobis planis, crassis, cartilagineis, rotundatis, divaricatis, imberbibus. *Fructus* immaturus.

From the appearance of this plant we may presume it to be either shrubby or suffruticose. The flowers are of a whitish colour, but were probably bluish when recent.

ORD. XXV. GOODENOVIÆ. *Br.*

1. Scævola *Gaudichaudi;* fruticosa erecta glabra, foliis spathulato-lanceolatis acutis integerrimis, axillis barbatis, pedunculis axillaribus folio multoties brevioribus unifloris, corolla glabra, drupis ovalibus urceolo 5-dentato coronatis bilocularibus dispermis, bracteolis linearibus.—S. montana? *Gaud. in Freyc. Voy. p.* 460.

In the specimen before us, the leaves are not falcate; but there is no other essential difference between it and the plant of Gaudichaud. We regret we cannot retain the name applied to it by that Botanist, as there is a previous *S. montana* of Labillardière.

2. Scævola *Chamissoniana;* fruticosa erecta glabra, foliis oblongis utrinque acuminatis argute denticulatis, axillis barbatis, pedunculis axillaribus dichotomis folium subæquantibus, floribus dichotomiarum sessilibus, calycibus abbreviatis, 5-dentatis, corollis pubescentibus, drupis bilocularibus. *Gaud. in Freyc. Voy. p.* 461. *t.* 82.

In our specimen, the corolla is scarcely pubescent, and is smaller than as exhibited in Gaudichaud's figure.

3. Scævola *glabra;* fruticosa erecta glabra, foliis cuneato-obovatis oblique acuminulatis longe petiolatis obscure et remote glanduloso-denticulatis, axillis barbatis, pedunculis axillaribus unifloris petiolo dimidio brevioribus nudis, corolla glabra, calycis dentibus tubum æquantibus.

This species appears, at first sight, very nearly allied to *S. Chamissoniana*, but the inflorescence is totally different. The leaves are almost entire, only exhibiting a few distant very minute glandular teeth. There are no bracteas, apparently, on the peduncle; but at the same time, a decided scar is to be seen at the base of the calyx, on both sides, which seems to indicate that they may have been present at a very early period. The corolla is much larger than in the last species. The petiole is about an inch, or an inch and a half long.

4. Scævola *mollis;* fruticosa erecta dense pubescens, foliis oblongo-lanceolatis supra glabris subtus sericeo-tomentosis petiolatis glanduloso-denticulatis, axillis barbatis, pedunculis petiolo brevioribus axillaribus divaricatis, ramis flexuosis paucifloris, bracteolis subulatis recurvis, corolla sericeo-tomentosa, calycis dentibus 5 brevissimis obtusis.

Very closely allied to *S. sericea*, Forst., but, as we think, perfectly distinct. The whole plant is so extremely fragile, that there is not an entire specimen in the Collection. Besides these four species, we also possess *S. Königii* from the same islands, gathered by Mr. Macrae.

ORD. XXVI. EPACRIDEÆ. *Br.*

1. Cyathodes *Tameiameiæ;* corollæ laciniis barbatis, drupa 5-8-loculari, foliis anguste cuneato-obovatis petiolulatis mucronulatis subtus multinervibus. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 539.

That the present, although only in fruit, is truly the plant of Chamisso, we have satisfied ourselves by a comparison of it with specimens sent us by that Botanist; but we are by no means certain whether *C. Banksii.*

(Gaud. in Freyc. Voy. p. 98,) is the same, since no description has been given. Mr. Brown takes notice of two other species found in the Sandwich Islands, both with the segments of the corolla quite naked; these, however, we have not seen. The habit of our plant is so similar to *Leucopogon obovatus*, Labill., that Sprengel has united them without attending to the position or number of the bracteæ at the base of the calyx.

ORD. XXVII. APOCYNEÆ. *Juss.*

1. Alyxia *sulcata*; foliis oppositis ovatis obtusis submembranaceis utrinque nitidis obsolete parallelim venosis, pedunculis axillaribus solitariis 3-floris folio dimidio brevioribus, fructibus olivæformibus longitudinaliter multi-sulcatis.

This is a very handsome species, and perhaps, as we at first thought, the *A. olivæformis* of Gaudichaud (Freyc. Voy. p. 451,) found in the same islands; but there are too many points of discrepancy to allow of our joining them. The leaves are never, that we see, in threes; nor are they acute at both extremities, as in Gaudichaud's plant; nor do we think he would have neglected to notice the numerous longitudinal furrows on the fruit. From *A. scandens*, Forst., this differs in many respects, particularly in the furrowed fruit, which has a perfectly even surface in that species; a character we omitted to remark at page 66, from not being at that time acquainted with the present plant.

1. Cerbera *parviflora;* foliis quaternis oblongis obtusiusculis parallelim venosis planis, cymis pedunculatis axillaribus ramosis divaricatis.—"*Forst. Prodr. n.* 121." *Willd. Sp. Pl. v.* 1. *p.* 1222. *Roem. et Schult. Syst. Veget. v.* 4. *p.* 438.

This species is omitted by Sprengel, and placed by Willdenow and subsequent authors among the doubtful species. It is very closely allied to *C. maculata*, Willd., nor can we easily point out any character to separate the two, except the shape of the leaves, which in our plant are very much broader, and not at all spotted, as is well represented in the other species by Jacquin, (Ic. Rar. ii. t. 321.) There are constantly four leaves in each whorl. The bracteas are small, and, towards the base, furnished with several spinous processes, or teeth.

ORD. XXVIII. CONVOLVULACEÆ. *Juss.*

1. Convolvulus *tuberculatus? Desv. in Lam. Encycl. v.* 3. *p.* 545.—Ipomæa tuberculata? *Roem. et Schult. Syst. Veget. v.* 4. *p.* 208.

The specimen is not in flower, and is otherwise imperfect.

2. Convolvulus *Cairicus. Vahl.—Bot. Mag. t.* 699. *Spreng. Syst. Veget. v.* 1. *p.* 592.—Ipomæa palmata. *Forsk. Ægypt. p.* 43. *Roem. et Schult. Syst. Veget. v.* 4. *p.* 207.

3. Convolvulus *purpureus. Linn.—Bot. Mag. t.* 113 *et* 1005. *Spreng. Syst. Veget. v.* 1. *p.* 597.—Ipomæa purpurea. *Lam.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 232.

4. Convolvulus *Pes Capræ. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 609.—Ipomæa maritima. *Br.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 249. *Bot. Reg. t.* 319.

5. Convolvulus *Batatas. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 607.—Ipomæa Batatas. *Lam.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 218.

6. Convolvulus *ovalifolius. Vahl.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 288. *Spreng. Syst. Veget. v.* 1. *p.* 613.

In the specimens before us, the branches are long and slender, from which we might almost conclude the plant to have been prostrate and not erect. We possess, in our herbarium, a plant from Mr. Menzies, also from the Sandwich Islands, which is a remarkable variety of the present species, being densely pubescent, nearly tomentose. This was found both in the islands of Oahu and Oneeheow, but the preceding five species appear to have been observed in the latter only.

ORD. XXIX. BORAGINEÆ. *Juss.*

1. Heliotropium *curassavicum. Linn.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 32. *Spreng. Syst. Veget. v.* 1. *p.* 540.

There is in the Collection a very slender state of this species from Oahu; the more common appearance is from Oneeheow.

1. Cordia *Sebestena. Linn.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 452. *Spreng. Syst. Veget. v.* 1. *p.* 649. *Bot. Mag. t.* 794.

This appears to be cultivated.

ORD. XXX. CYRTANDRACEÆ. *Jack.*

1. Cyrtandra *cordifolia;* foliis subrotundo-ovatis acutis oblique cordatis dentatis supra hirsutis subtus villoso-tomentosis ferrugineis, pedunculis trifloris, calycibus ferrugineo-villosis. *Gaud. in Freyc. Voy. p.* 446. *t.* 56.

2. Cyrtandra *grandiflora;* foliis oblongis acuminatis basi angustatis obsolete denticulatis ciliatis supra glabriusculis subtus pallidioribus, nervo venisque pulverulento-pubescentibus, pedunculis apice diphyllis bifloris, calycibus glabris. *Gaud. in Freyc. Voy. p.* 447. *t.* 55.

The specimen is very imperfect, though decidedly the plant figured by Gaudichaud.

3. Cyrtandra *Lessoniana;* foliis oblongis acuminatis basi angustatis denticulatis supra puberulis subtus tomentoso-sericeis ferrugineis, pedunculis unifloris bibracteatis, calycibus quinquepartitis subvillosis, laciniis margine undulato-reflexis. *Gaud. in Freyc. Voy. p.* 447. *t.* 54.

There are two varieties in the Collection, one of which has the leaves twice as long as those figured by Gaudichaud.

4. Cyrtandra *Garnotiana;* foliis elliptico-oblongis acutis in petiolum decurrentibus remote serrulatis supra hirtellis subtus molliter tomentoso-pubescentibus canescentibus, pedunculis paucifloris subdichotomis, calycibus villoso-pubescentibus. *Gaud. in Freyc. Voy. p.* 447. *t.* 53.

5. Cyrtandra *paludosa*; foliis oblongis acuminatis basi angustatis grosse serratis glabris subtus pallidioribus, pedunculis brevissimis flores paucos pedicellatos umbellatim dispositos gerentibus, calycibus glabriusculis. *Gaud. in Freyc. Voy. p.* 447.

Although Gaudichaud describes his plant as having single-flowered peduncles, still we think it the same as ours; indeed, on some of the specimens before us there is only one flower, or rather fruit, to each peduncle; but a slight inspection shows that this is caused by all the pedicels but one having fallen off. In the Collection there are two states or varieties; one with much smaller and more rigid leaves than the other. Gaudichaud enumerates and figures yet another species, *C. triflora;* foliis oblongis subacuminatis basi cuneatis subduplicato-serratis glabris, nervo venisque subtus adpresso-pubescentibus, pedunculis trifloris, calycibus glabriusculis. Gaud. l. c. t. 52.—We have also another in our herbarium, from the same islands, discovered by Mr. Menzies, which we propose to call *C. Menziesii;* foliis quaternis oblongis brevissime acuminatis basi cuneatis versus apicem subdenticulato-serratis supra scabriusculis subtus glabris, nervo

venisque adpresso-pubescentibus, pedunculis apice flores plures umbellatim dispositos gerentibus, calycis hirsuti dentibus subulatis.

ORD. XXXI. SOLANEÆ. *Juss.*

1. Solanum *Sandwicense;* caule fruticoso, ramis teretibus, ramulis canescentibus, foliis angulato-sinuatis ovatis supra glabris subtus pubescenti-canis, racemis corymbosis terminalibus vel lateralibus, calyce minuto quinquefido, staminibus equalibus.

This appears to have been also observed by Gaudichaud, but neither named nor described. At first sight it resembles some of the *Lasiopetaleæ*.

2. Solanum *argenteum. Dun.—Roem. et Schult. Syst. Veget. v.* 4. *p.* 602. *Spreng. Syst. Veget. v.* 1. *p.* 684.

ORD. XXXII. LABIATÆ. *Juss.*

1. Plectranthus *australis;* calycis labio inferiore 4-partito laciniis mediis vix longioribus, corollæ tubo calycem bis superante, verticillis distinctis, pedicellis calycem fructiferum subæquantibus, foliis ovatis inciso-crenatis rugosiusculis pubescentulis, caule herbaceo. *Br.* —*Br. Prodr. Fl. Nov. Holl. p.* 506. *Spreng. Syst. Veget. v.* 2. *p.* 690.

Found on the islands of Oahu and Oneeheow. Gaudichaud notices a species of this genus which he met with, and which is probably the same as ours. The calyx is more or less covered with yellow resinous glands, which we do not find noticed by authors. Mr. Bentham, in the Linnæa, v. 6. p. 80, states the species detected in Oahu, by Chamisso, to be *P. parviflorus*, Willd.; and certainly ours accords well with the figure given in the Hort. Berol. t. 65; but the calyx is described as without glands.

1. Phyllostegia *glabra;* glaberrima, foliis petiolatis ovatis acuminatis serrato-crenatis basi rotundatis, floralibus minoribus breviter petiolatis, racemis subpaniculatis, pedunculis utrinque elongatis trifidis, calycis ovato-campanulati dentibus brevibus acutis demum patentibus, corolla calyce vix duplo longiore, styli lobis clavatis recurvato-divaricatis. *Benth. in Linnæa, v.* 6. *p.* 79.—Prasium glabrum. *Gaud. in Freyc. Voy. p.* 252. *t.* 64. (*ex parte.*)

Mr. Bentham remarks that Gaudichaud's plate is compounded of the present and the next species: in this, the corolla is much the smallest. The specimen in the Collection is very imperfect, but we have one from Mr. Macrae. As this genus has been only lately separated by Mr. Bentham from *Prasium*, we shall here quote the character: PHYLLOSTEGIA. *Gaud.* Calyx ovatus, 10-nervis, subæqualis, nunc 5-fidus, lobis ovatis foliaceis, nunc breviter 5-dentatus. Corolla tubo calycem superante, nunc longe exserto, sæpius incurvo, fauce non inflata, bilabiata: labio superiore subpatente integro subplano; inferiore longiore patente 3-fido, lobis ovatis, medio majore integro. Stamina 4, sub labio superiore adscendentia. Antheræ biloculares, loculis divergentibus vel demum divaricatis. Stylus apice clavatus, breviter bifidus, lobis clavato-divaricatis vel lunatis. Achenia carnosa. Verticillastra racemosa vel paniculata, foliis floralibus bracteiformibus.

2. Phyllostegia *Chamissonis;* glaberrima, foliis petiolatis ovatis acuminatis serrato-crenatis basi rotundatis, floralibus minoribus sessilibus, racemis subpaniculatis, pedunculis utrinque elongatis trifidis, calycis elongato-turbinati dentibus brevibus obtusis erectis, corolla calyce triplo longiore, styli lobis clavatis, superiore sub recto tenuiore. *Benth. in Linnæa, v.* 6. *p.* 81.

The corolla is about an inch and a quarter long, being almost as large as in *P. grandiflora*, but it is glabrous and not pubescent.

3. Phyllostegia *grandiflora;* pilis brevibus adpressis pubescens, foliis petiolatis ovatis acutis serrato-crenatis basi rotundatis vel subcordatis, verticillastris sexfloris racemosis, pedicellis calyce sublongioribus, dentibus calycinis foliaceis ovatis integerrimis, corollæ tubo calyce duplo longiore, styli lobis lunatis. *Benth. in Linnæa, v.* 6. *p.* 78.—Prasium grandiflorum. *Gaud. in Freyc. Voy. p.* 253. *t.* 65. *f.* 2.

4. Phyllostegia *parviflora;* foliis petiolatis ovatis crenatis basi cordatis subtus ramisque pilis mollibus adpressis pubescentibus, verticillastris sexfloris racemosis, pedicellis calyce triplo longioribus, calycis viscoso-pubescentis dentibus abbreviatis acutis, corollæ tubo calyce duplo longiore, styli lobis clavatis recurvato-divaricatis. *Benth. in Linnæa, v.* 6. *p.* 79.—Prasium parviflorum. *Gaud. in Freyc. Voy. p.* 253. *t.* 65. *f.* 1.

ORD. XXXIII. VERBENACEÆ. *Juss.*

1. Lantana *annua. Linn.?*

The only specimen is in very bad condition: it is most probably a cultivated plant.

1. Avicennia *tomentosa. Linn.?*

ORD. XXXIV. MYOPORINEÆ. *Br.*

1. Myoporum *tenuifolium;* foliis alternis lanceolatis acuminatissimis integerrimis ramulisque lævibus, calycis laciniis lanceolatis acutis, limbo corollæ imberbi. *Br.*—"*Forst. Prodr. n.* 44." *Br. Prodr. Fl. Nov. Holl. p.* 515. *Spreng. Syst. Veget. v.* 2. *p.* 767.

Of this we possess three very distinct appearances in our herbarium, collected by Mr. Menzies and Mr. Macrae, in the same islands. In one the leaves are oblongo-lanceolate, and not at all acuminated; in another they are very narrow, lanceolate, and much attenuated: the specimens in the Collection are between the two, precisely similar to what we possess from the east coast of New Holland. This species has the smell of the true Sandal-wood, and is exported to China.

ORD. XXXV. PLUMBAGINEÆ. *Juss.*

1. Plumbago *Zeylanica;* caule erecto terete, foliis petiolatis oblongo-ovatis glabris integerrimis. *Linn.—Spreng. Syst. Veget. v.* 1. *p.* 537.

ORD. XXXVI. NYCTAGINEÆ. *Juss.*

1. Boerhavia *tetrandra;* caule terete glabro procumbente, foliis subrotundis emarginatis crassiusculis basi vix attenuatis subtus (siccitate) rugosis pallidioribus, floribus umbellatis 2-5-andris. "*Forst. Prodr. n.* 5." *Spreng. Syst. Veget. v.* 1. *p.* 37.—Boerhavia mutabilis. *Br. Prodr. Fl. Nov. Holl. p.* 422.

2. Boerhavia *hirsuta. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 36, (*cum synon.*)

ORD. XXXVII. PLANTAGINEÆ. *Juss.*

1. Plantago *Queleana;* caule fruticoso erecto simplici terete apice folioso lanuginoso, foliis lanceolatis glaberrimis integerrimis, spica elongata sparsiflora laxa, capsula uniloculari disperma. *Gaud. in Freyc. Voy. p.* 445. *t.* 50.

The specimen before us is not more than half a foot high, and perfectly unbranched, but it seems

extremely doubtful whether *P. princeps*, (Cham. et Schlecht. in Linnæa, v. 1. p. 167,) is not the same; indeed, we have before us specimens from Mr. Menzies and Mr. Macrae, intermediate in general appearance, but, from their not being entire, it is almost impossible to say whether or not the stem be branched or simple. We possess another allied, but distinct, species, *P. Fernandeziana*, Bertero, gathered by that Botanist in the island of Juan Fernandez.

ORD. XXXVIII. AMARANTHACEÆ. *Juss.*

1. Amaranthus *viridis. Linn.*

1. Charpentiera *obovata;* foliis breviter petiolatis oblongis, paniculis simplicibus. *Gaud. in Freyc. Voy. p.* 444. *t.* 48.

This genus being of recent formation, we shall here, as we have hitherto done, quote its character: CHARPENTIERA, *Gaud.*;—Flores hermaphroditi: Perianthium 5-partitum subregulare tribracteatum. Stamina 5, basi in urceolum ovario breviorem connata, interjectis lobulis totidem rotundatis. Antheræ cordatæ, biloculares. Ovarium pyriforme, tardius ovoideum monospermum, ovulum podospermio spathulato cucullato suffultum. Stylus nullus. Stigma profunde bipartitum, laciniis subulatis interne villosis patulis, capsula membranacea, ovoidea, monosperma, evalvis. Semen reniforme.—In this genus, the leaves are alternate and very entire, and the panicles axillary. It ranks next to *Chamissoa.*

2. Charpentiera *ovata;* foliis longe petiolatis ovato-ellipticis, paniculis compositis. *Gaud. in Freyc. Voy. p.* 444. *t.* 47.

We have received this from Mr. Macrae also.

ORD. XXXIX. CHENOPODIACEÆ. *Vent.*

1. Chenopodium *hybridum. Linn.*

1. Phytolacca *Abyssinica;* floribus hermaphroditis decandris pentagynis. *Hoffm.—Spreng. Syst. Veget. v.* 2. *p.* 441.—P. dodecandra. *L'Hér. Stirp. Nov. t.* 69.

Our specimens having only ten stamens and five styles, we have referred them as above, though the habit is entirely that of *P. decandra.* Gaudichaud (in Freyc. Voy. p. 94) mentions having met with a species in Oahu with from five to six stamens, and as many styles, which is probably a variety of *P. octandra*, but the limits of the species in this genus are but ill understood.

ORD. XL. THYMELEÆ. *Juss.*

1. Daphne *Indica; Linn.—vide in hoc op. p.* 68. *t.* 15.

ORD. XLI. SANTALACEÆ. *Br.*

1. Santalum *Freycinetianum;* foliis lanceolatis obtusiusculis venosis complicato-subfalcatis petiolo quinquies longioribus, racemis terminalibus simplicibus, floribus oppositis roseis, caule arboreo. *Gaud. in Freyc. Voy. p.* 442. *t.* 45.

This is perhaps one of the most interesting plants in the whole Collection, being the celebrated Sandwich Island Sandal-wood. Another species, *S. ellipticum*, with axillary racemes and yellowish-green flowers, has been likewise discovered by Gaudichaud. We possess also, in our herbarium, a third, from the volcano of Owhyhee, collected by Mr. Macrae, which may be thus named and characterised;—*S. paniculatum;* foliis late ellipticis venosis planis petiolo multoties longioribus, paniculis terminalibus multifloris, caule arborescente. It is difficult to decide from the specimens, whether the stem be that of a large shrub or a tree: the petioles are not more than two lines long, but the leaves an inch and a half or two inches.

1. Exocarpus *cupressiformis;* caule arboreo, ramulis teretiusculis, spicis pedunculatis, foliis minutis denticuliformibus triangularibus patulis. *Br. Prodr. Fl. Nov. Holl. p.* 356. *Spreng. Syst. Veget. v.* 1. *p.* 826.

The specimens in the Collection are imperfect, but they accord so precisely with others from New Holland in our herbarium, that we can scarcely entertain any doubt of their being the same species.

ORD. XLII. EUPHORBIACEÆ. *Juss.*

1. Euphorbia *hirta;* caule erecto herbaceo, ramis villosis, foliis oppositis ovato-oblongis acutis serrulatis hirsutis, floribus aggregatis, glomerulis axillaribus pedunculatis. *Linn.*— *Jacq. Coll. Suppl. t.* 11. *f.* 1. *Spreng. Syst. Veget. v.* 3. *p.* 793. *Burm. Zeyl. t.* 104.

2. Euphorbia *myrtifolia;* caule inermi fruticoso ramoso, foliis late ovatis oppositis acutis obsolete serratis membranaceis glabris, pedicellis axillaribus brevibus divisis paucifloris, involucri glandulis rotundatis integerrimis.

We cannot refer this to any known species.

3. Euphorbia *multiformis;* caule inermi fruticoso ramoso, foliis oppositis ellipticis obtusis integerrimis membranaceis glabris subtus pallidis purpureo-venosis, floribus axillaribus terminalibusque solitariis sessilibus, involucri glandulis rotundatis integerrimis. *Gaud. in Freyc. Voy. p.* 100? (absque descriptione.)

If we be right in referring this to the plant alluded to by Gaudichaud, it must be a very variable species; that Botanist remarking that in elevated situations, it forms a small tree, the trunk of which is three or four inches in diameter; but, in descending, is found smaller; till at last, in low cultivated places, it is only suffruticose or even herbaceous.

4. Euphorbia *clusiæfolia;* caule inermi fruticoso ramoso, foliis oppositis oblongo-ellipticis obtusis integerrimis coriaceis glabris subtus aveniis, pedunculis axillaribus bifidis.

The specimen before us is in an imperfect state: resembling in habit certain *Peperomiæ*, particularly *P. clusiæfolia.* The above species of *Euphorbia* were only observed in Oahu.

1. Phyllanthus *distichus;* caule fruticoso, ramulis ancipitibus pinnæformibus, foliis oblongis acutiusculis subtus pallidioribus, pedunculis subsolitariis capillaribus cernuis folio quater brevioribus.

Allied to *P. rhamnoides* and *P. cernuus*, but not agreeing with either. The branches below the leaves are almost cylindrical, but, nearer the extremity, they are more compressed and two-edged. The bark is slightly rugose. The leaves vary from one to two inches in length.

1. Aleurites *triloba;* foliis cordato-ovatis subtus subfarinaceis basi biglanduliferis junioribus tricuspidatis adultioribus subangulatis, corymbis (masculis) dichotomis. *Spr.*—"*Forst. Prodr. n.* 360." *Spreng. Syst. Veget. v.* 3. *p.* 147.

ORD. XLIII. URTICEÆ. *Juss.*

1. Urtica *grandis;* caule fruticoso, foliis oppositis cordato-ovatis grosse serratis rugosis supra pubescenti-scabris subtus glabris, petiolis venisque foliorum pubescentibus, stipulis oblongo-lanceolatis magnis caducis, paniculis axillaribus pedunculatis subsimplicibus, ramis filiformibus interrupte floriferis.

The panicles are not more than half the length of the leaf, including the petiole. It appears most allied to *U. hastata*, Forst.

1. Pilea *peploides;* foliis longe petiolatis rhomboideo-orbiculatis integerrimis glabris, floribus axillaribus glomerato-racemosis.—Dubreulia peploides. *Gaud. in Freyc. Voy. p.* 495.

This genus, by its sessile, multifid stigma, approaches most to *Procris,* but its habit is that of *Parietaria.* The character of *Dubreulia,* as given by Gaudichaud, is nearly as follows:—Flores sessiles; masculi et fœminei in eadem panicula, bracteati. Masc. perianthium 4-partitum. Stamina 4. Pistilli rudimentum clavatum. Fœm. perianthium 3-lobum, lobis valde inæqualibus, exteriore maximo incrassato cucullato. Stamina 3, sterilia, squamiformia, incurva. Stigma sessile multipartitum.—Gaudichaud does not seem to be aware of its identity with *Pilea* of Mr. Lindley. *Urtica serpyllacea, microphylla, callitrichoides,* and several others, belong to it.

1. Procris *glabra;* foliis alternis ovatis vix acuminatis crenato-serratis glabris lævibus, cymis divaricatis pedunculatis.

Procris, with which we consider *Elatostemma* identical, as also *Sciophila, Pellionia,* and *Langeveldia* of Gaudichaud, differ from *Boehmeria* by the stigma, which, in the latter genus, is simple, elongated, and villous on one side.

1. Boehmeria *albida;* dioica arborea, foliis alternis late ovatis acuminatis trinerviis serratis supra minute rugosis et pubescentibus subtus albido-tomentosis, capitulis utriusque sexus globosis axillaribus sessilibus, perianthio membranaceo, achenio ovato-elliptico.

A very handsome species, belonging to the section *Procris* of Gaudichaud; but we have, along with Sprengel, retained that name for what Gaudichaud calls *Elatostemma.*

2. Boehmeria *melastomæfolia;* foliis alternis oblongis acuminatis basi acutis trinerviis glabriusculis subtus pallidioribus, perianthio demum carnoso, achenio depresso-conico.—Neraudia melastomæfolia. *Gaud. in Freyc. Voy. p.* 500. *t.* 117.

Neraudia of Gaudichaud is principally distinguished from *Boehmeria* by the shape of the achenium, and the consistence of the perianth surrounding the ripe fruit. We do not think it necessary to separate them.

Ord. XLIV. PIPERACEÆ. *Rich.*

1. Piper *methysticum;* fruticosum, foliis cordato-oblongis acuminatis multinerviis glabris, spicis solitariis axillaribus brevissimis patentissimis. *Spr.*—"*Forst. Prodr. n.* 21." *Spreng. Syst. Veget. v.* 1. *p.* 113.

1. Peperomia *pallida;* caule erecto glabro, foliis alternis oblongo-ellipticis glabris 3-nerviis, spicis axillaribus solitariis filiformibus, baccis distinctis.—Piper pallidum. "*Forst. Prodr. n.* 24." *Spreng. Syst. Veget. v.* 1. *p.* 116.

2. Peperomia *leptostachya;* caule erecto tomentoso, foliis quaternis ovato-ellipticis acutiusculis trinerviis utrinque pubescentibus, spicis axillaribus terminalibusque pedunculatis gracilibus folio longioribus.

3. Peperomia *verticillata;* caule erecto, foliis subquaternis obovatis obtusis subtrinerviis pubescentibus subtus convexis, spicis axillaribus terminalibusque verticillatis. *Spr.*—Piper verticillatum. *Linn.*—*Spreng. Syst. Veget. v.* 1. *p.* 119.

4. Peperomia? *membranacea;* caule erecto glabro, foliis subquaternis ovatis acuminatis trinerviis glabris membranaceis subtus pallidioribus, spicis axillaribus terminalibusque gracilibus.

The leaves are so membranaceous, that this species may perhaps belong to the genus *Piper:* the specimens in the Collection are not, however, in a state to enable us to determine that point.

5. Peperomia *tetraphylla;* caule sulcato ramoso repente, foliis quaternis stellatis rhombeo-rotundatis subtus convexis brevissime petiolatis glabris, spicis terminalibus solitariis ebracteatis.—Piper tetraphyllum. "*Forst. Prodr. n.* 25."?—P. reflexum. *Vahl.—Spreng. Syst. Veget. v.* 1. *p.* 121?

We are very doubtful of the synonyms: it is certainly not *P. rhombea,* Ruiz et Pav., which Sprengel refers to *Piper reflexum.* It has much the appearance of some species of *Rubia.*

ORD. XLV. SCITAMINEÆ. *Br.*

1. Canna *Indica. Linn.*

ORD. XLVI. SMILACINEÆ. *Br.*

1. Smilax *Pseudo-china. Linn.?*

ORD. XLVII. ASPHODELEÆ. *Br.*

1. Dianella *Sandwicensis;* foliis radicalibus lineari-ensiformibus carina marginibusque lævibus, panicula decomposita, ramis ramulisque divaricatis, pedicellis laxe racemosis arcuatis secundis perianthium subæquantibus.

Gaudichaud appears also to have found this species; but he has given neither specific name nor character. It is very closely allied to *D. divaricata,* Brown.

1. Dracæna *terminalis;* caule fruticoso vel arborescente, foliis petiolatis lanceolatis utrinque attenuatis, paniculæ ramis divaricatis simplicibus ramosisve, floribus subsessilibus. *Blume.—Lam.—Willd. Sp. Pl. v.* 2. *p.* 157. *Blume, En. Pl. Jav. p.* 10. *Schult. Syst. Veget. v.* 7. *p.* 313.—D. ferrea. *Spreng. Syst. Veget. v.* 2. *p.* 93.—Asparagus terminalis. *Linn.*—Cordyline Eschscholziana. *Mart. in Schult. Syst. Veget. v.* 7. *p.* 347?

ORD. XLVIII. MELANTHACEÆ. *Br.*

1. Astelia *Menziesiana;* foliis strictis subtus sericeis, scapo hirsuto, racemo paniculato multifloro, bacca ovata triloculari.—*Sm. in Rees' Cycl. App.—Spreng. Syst. Veget. v.* 2. *p.* 144. *Schult. Syst. Veget. v.* 7. *t.* 1506.

Gaudichaud met with a species also in Oahu, which he has described under the name of *A. veratroides,* having the leaves tomentose on both sides. It may, however, be merely a variety.

ORD. XLIX. PANDANEÆ. *Br.*

1. Freycinetia *scandens;* caudice scandente, foliis lineari-lanceolatis membranaceis, spadicibus fœmineis ovatis, stigmate trilobo. *Gaud. in Freyc. Voy. p.* 432.

Our specimens are without flower and fruit. This genus appears to be the same as that alluded to by Mr. Brown, from Norfolk Island, and is distinguished from *Pandanus* as follows:—*Flores* dioici. FŒM.: *Pericarpia* baccata, mollia, per paria interdum connata, unilocularia; *placentæ* 4–14, parietales, per paria approximatæ. *Semina* creberrima, minuta, fusiformia, striata, altero latere strophiola longitudinali instructa.

ORD. L. FLUVIALES. *Vent.*

1. Ruppia *maritima. Linn.*

ORD. LI. CYPERACEÆ. *Juss.*

1. Scirpus *maritimus. Linn.—Engl. Bot. t.* 542. *Spreng. Syst. Veget. v.* 1. *p.* 210.

2. Scirpus *lacustris. Linn.—Engl. Bot. t.* 666. *Spreng. Syst. Veget. v.* 1. *p.* 209.

1. Eleocharis *obtusa;* radice fibrosa, culmis cæspitosis erectis teretibus inferne arcte vaginatis glabris striatis, vaginis oblique truncatis mucronulatis, spiculis ovato-oblongis, squamis oblongis apice rotundatis uninerviis glabris, stylo trifido, achenio obovato lenticulari-compressiusculo lævi glabro albido styli basi conica coronato. *Gaud. in Freyc. Voy. p.* 414.—Scirpus obtusus. *Willd. En. Hort. Ber.?*

We agree with Gaudichaud in thinking the plant from the Sandwich Islands scarcely distinct from that found in North America.

1. Fimbristylis *cymosa;* umbella decomposita involucrum superante, spiculis globoso-ovatis paucifloris, squamis ovatis, stylis trifidis nudiusculis, nucibus triquetris lævibus, culmo angulato lævi foliis strictis carinatis duplo longiore. *Brown, Prodr. Fl. Nov. Holl. p.* 228. *Spreng. Syst. Veget. v.* 1. *p.* 202.

Found both in Oahu and Oneeheow. This species belongs to the genus *Trichelostylis,* Lestib., but it ought not to be placed in a different one from *F. dichotoma,* or from our *F. affinis.*

1. Morelotia *gahniæformis. Gaud. in Freyc. Voy. p.* 416. *t.* 28.

This genus being lately established, and peculiar to the Sandwich Islands, we shall here give its character: MORELOTIA, *Gaud.*;—*Spicula* apice uniflora; *squamæ* complures undique imbricatæ, ovatæ, concavæ, apice aristatæ. *Stamina* 3, exserta, persistentia. *Ovarium* ellipticum, sessile. *Stylus* filiformis, exsertus. *Stigmata* 3, plumosa. *Fructus* ellipticus, osseus, lævis, nitens, sulcis tribus longitudinaliter exaratus.—The stems are cæspitose, erect, leafy, and cylindrical; the leaves very narrow, linear. The panicles are terminal and crowded. The fruit is deciduous, but remains for some time suspended by the filaments, which become entangled with the convolute apices of the squamæ.

1. Vincentia *angustifolia;* foliis angustatis linearibus culmo parum brevioribus.—*Gaud. in Freyc. Voy. p.* 417.

Gaudichaud named this genus in honour of Bory de St. Vincent, but as there is already *Borya* dedicated to him, a second is, by all Botanical rules, inadmissible: we have, however, allowed it to remain, rather than create confusion by altering it.—We believe there can be no doubt entertained of our plant being identical, as a species, with that described by Gaudichaud, but the character given does not strictly accord with the specimens before us. We therefore propose the following:—VINCENTIA;—*Spiculæ* subsexfloræ. *Squamæ* undique imbricatæ, carinato-concavæ; inferiores concavæ summaque vacuæ. *Perianthium* trivalve. *Setæ* hypogynæ nullæ. *Stamina* 3. *Ovarium* sessile, triangulare, angulis acutissimis. *Stylus* 1, inferne dilatatus, triangularis, pubescens, cum ovario continuus, superne trifidus. *Nux* triquetra, basi styli persistente cuspidata.—To this genus belong *Scirpus lavarum, anceps,* and *iridifolius,* nor perhaps are there any good specific characters to be found between them: they have all been usually referred to *Machaerina restoides,* from which, however, this genus differs by the absence of hypogynous setæ, and by the scales imbricated on all sides: from *Lepidosperma* it is distinguished by the nature of the perianth.

1. Rhynchospora *lavarum;* glabra, culmis cæspitosis erectis trigonis, foliis setaceo-linearibus rigidis subcanaliculatis, corymbis terminalibus et axillaribus oligostachys, spiculis trifloris, squamis obovato-oblongis obtusis uninerviis glabris mucronato-subaristatis, achenio subelliptico lenticulari-compresso lævi glabro fusco rostrato. *Gaud. in Freyc. Voy. p.* 415.

The specimens in the Collection agree sufficiently with the above character. To us, this species seems closely allied to *R. fusca.*

2. Rhynchospora *sclerioides;* paniculis densis erectis rigidis axillaribus, squamis adpressis, foliis rigidis margine dorsoque scabris culmum triquetrum æquantibus.

Culmus erectus, foliosus, triqueter, glaber. *Folia* rigida, linearia, dorso margineque scabra, culmum æquantia. *Spicæ* dense fasciculato-paniculatæ: *paniculæ* axillares; *spiculæ* triflores. *Squamæ* adpressæ, oblongo-lanceolatæ, mucronato-aristatæ, glabræ. *Achenium* rotundum, lenticulari-compressum, longitudinaliter punctato-lineatum, glabrum; *rostellum* ensiforme, achenii latitudinem æquans, longitudine duplo superans. *Stylus* elongatus bifidus. *Setæ* hypogynæ 4–6 capillares, retrorsum scabræ.

1. Cyperus *mucronatus. Vahl.—Roem. et Schult. Syst. Veget. v.* 2. *p.* 167. *Spreng. Syst. Veget. v.* 1. *p.* 217.

Found in the Island of Oneeheow.

2. Cyperus *brunneus;* spicis lanceolatis glomerato-corymbosis, squamis striatis, involucro 3-phyllo elongato, foliis linearibus culmum triquetrum æquantibus. *Spr.—Sw.—Roem. et Schult. Syst. Veget. v.* 2. *p.* 176. *Spreng. Syst. Veget. v.* 1. *p.* 219.

3. Cyperus *cæspitosus;* spicis lineari-oblongis compressis umbellato-glomeratis, umbellis umbellatis pedunculatis, squamis obtusis margine scariosis, involucro triphyllo elongato, culmo filiformi triquetro, foliis linearibus planis. *Spr.—Roem. et. Schult. Syst. Veget. v.* 2. *p.* 194. *Spreng. Syst. Veget. v.* 1. *p.* 221.

4. Cyperus *paniculatus;* spiculis lanceolatis compressis horizontalibus remotiusculis, squamis duabus inferioribus subulatis vacuis cæteris obtusis striatis, umbellæ umbellulæque radiis alternis, involucro partiali nullo universali poly-(8)-phyllo, foliolis tribus elongatis, culmo acute triquetro.—*Rottb. in Gram. p.* 40? *Roem. et Schult. Syst. Veget. v.* 2. *p.* 189? *Spreng. Syst. Veget. v.* 1. *p.* 223?

We feel extremely doubtful about any of the synonyms. Our plant, judging by a solitary imperfect specimen, is nearly allied to *C. strigosus.*

5. Cyperus *strigosus;* spicis lineari-subulatis confertis horizontalibus remotiusculis, umbellulæ radiis alternis, involucro pentaphyllo elongato foliis culmum æquantibus. *Spr.—Linn.—Roem. et Schult. Syst. Veget. v.* 2. *p.* 214. *Spreng. Syst. Veget. v.* 1. *p.* 226.

6. Cyperus *trachysanthos;* spiculis oblongis compressis plurimis glomerato-umbellatis, umbellulis ultimis confertim umbellatis subternis, squamis ovatis mucronatis apice recurvis dorso denticulis asperatis, involucro triphyllo elongato, culmo trigono.

Sometimes the rays of the umbel are not again divided, but bear the ultimate sessile spikelets in a head at their extremity. There are two varieties in the Collection, one with spikelets, containing about thirty flowers, and the culm free from all asperities; the other with shorter, more ovate spikelets, of from eight to ten flowers, and the angles of the culm scabrous near the umbel. In this last, the ultimate umbels are not half the size of those in the first variety.

7. Cyperus *caricifolius;* spiculis patulis spicatis racemosis ovato-oblongis turgidis congestis, squamis subrotundis concavis obtusis nervosis albidis, involucro partiali nullo universali 5–6-phyllo elongato, culmo obtuse trigono, foliis carinatis margine carinaque scabris.

This has many points in common with *C. Monti;* but the stem is acutely angular. Each ray of the umbel has on its upper half several horizontal alternate branches, of which the lower are the longest, and the upper gradually shorter. These again, particularly the lower ones, have also alternate branches, along which are placed the turgid spikelets. The stem is from fifteen inches to two feet high. The leaves resemble those of some of the larger species of *Carex.*

8. Cyperus *Prescottianus;* spiculis linearibus elongatis compressis horizontalibus alternis spicatis, spicis corymboso-racemosis, squamis hiantibus obtusiusculis nervosis, involucri universalis polyphylli foliolis tribus umbella duplo longioribus, partialibus umbellula brevioribus, culmo acute triquetro.

There is only one specimen in the Collection. We have named this species in honour of J. D. Prescott, Esq. of St. Petersburgh, who has made the *Cyperaceæ* his particular study.

9. Cyperus *multiceps;* spiculis subulatis spicatis, spicis umbellatis confertis, umbella et umbellulis intermediis atque ultimis multiradiatis, squamis oblongis obtusis, involucri polyphylli foliolis tribus inflorescentia quadruplo longioribus, involucellis umbellulas proprias æquantibus, culmo triquetro.

Of this only one specimen exists in the Collection. The flowers are not sufficiently advanced to enable us to decide whether it be a true *Cyperus* or a *Papyrus.*

ORD. LII. GRAMINEÆ. *Juss.*

1. Digitaria *ciliaris. Willd.*—D. consanguinea. *Gaud. in Freyc. Voy. p.* 410.

1. Panicum *capillare. Retz.—Roem. et Schult. Syst. Veget. v.* 2. *p.* 435. *Spreng. Syst. Veget. v.* 1. *p.* 320.

2. Panicum *gossypinum;* totum dense ac molliter pilosum, foliis planis, panicula ramosa effusa, ramis gracilibus, spiculis lanceolatis, glumis subæqualibus, floris neutri glumula superiori minimo.

The silkiness extends not only to the stem and leaves, but to the branches of the panicle and the glumes. The stems grow in a tufted manner.

3. Panicum *affine;* caule foliis (planis) vaginisque pilosis, panicula ramosa, ramis erectiusculis strictis pilosis, spiculis ovatis, glumis pilosis subæqualibus, floris neutri glumula superiori nullo.

Closely allied to the preceding species, but the panicle is much more glabrous, and the shape of the spikelets is very different.

4. Panicum *nephelophilum;* foliis planis minute pubescentibus basi supra vaginisque villosis, ligula nulla, panicula subcoarctata, ramis strictis erectis elongatis, glumis subæqualibus acutis nervosis glabris, floris neutri glumula superiori brevi.—*Gaud. in Freyc. Voy. p.* 411?

As it appears doubtful whether this is the same as the species discovered by Gaudichaud, we have altered the specific character to what corresponds to our specimens. The hairs on the sheaths of the leaves spring from tubercles, and often fall off on the upper part. It appears to be a tall plant.

5. Panicum *Beecheyi;* culmo ramoso glabro decumbente, nodis sericeis, foliis convolutis vaginisque glabris, ligula brevi ciliata, panicula contracta, glumis subæqualibus nervosis pilosis, floris neutri glumula superiori minutissimo.

The outer or lower glumule of the neuter floret is as long as, and similar to, the calycine glumes: the upper one is very minute and rounded.

6. Panicum *tenuifolium;* glabrum, culmo ramoso, foliis convolutis, ligula ciliæformi brevi, panicula coarctata, glumis subæqualibus acutis nervosis, floris neutri glumula superiori subnullo.

Culmus glaber, erectus, 1–1½ pedalis, ramosus, rigidus: *nodi* glabri. *Folia* angusta, exsiccatione convoluta, glabra: *vagina* striatula glabra: *ligula* brevissima ciliata. *Panicula* 3–5 uncias longa, stricta, erecta; rami flexuosi scabri, ramulis ultimis brevibus. *Spiculæ* in apice ramulorum solitariæ. *Glumæ* calycinæ glabræ, subæquales; inferior paullo longior, lanceolata, acuminata, 5-nervosa, superior ovata, 7-nervosa. *Floris* neutri *glumula* inferior glumæ calycinæ superiori omnino similis, superior minutissima; glumulæ corollinæ hermaphroditi æquales, albidæ, nitidæ, cartilagineæ, glabræ, neutro breviores.

This is allied in habit to *Agrostis tenuifolia,* M. B. as figured by Trinius, Spec. Gram. fasc. 3. n. 35; but is a true *Panicum.*

1. Orthopogon *compositus;* spiculis multifloris, floribus geminis hirsutis, glumis ambabus aristatis, exteriori parum majori, interioris arista abbreviata, flosculo neutro mucronulato, foliis lanceolatis. *Brown, Prodr. Fl. Nov. Holl. p.* 194. *Spreng. Syst. Veget. v.* 1. *p.* 306.—Panicum compositum. *Linn.*—O. compositus, var. *Trin. Spec. Gram. fasc.* 16. *t.* 188.

1. Stenotaphrum *glabrum;* sinubus racheos bi-quinquefloris, spiculis absque rudimento inter flosculos. *Nees ab Esenb.—Trin. Fund. Agrost. p.* 175. *Nees ab Esenb. Agrost. Bras. p.* 92.—Rottboellia dimidiata. *Linn.*

Our specimens are of the variety with two flowers in each recess of the rachis. *Rottboellia complanata,* Sw., and *R. stolonifera,* Poir., also belong to this genus. *Stenotaphrum* appears to have little affinity with *Rottboellia,* and ought to come near to *Panicum,* in which latter genus Linnæus placed *S. complanatum.*

1. Pennisetum *calyculatum. Spr.—Vide supra, p.* 72.

Found in Oneeheow.

1. Vilfa *Virginica;* paniculæ lanceolatæ contractæ densæ, ramis approximatis sparsis racemoso-compositis, gluma inferiori valvulis parum breviore, superiori eas æquante vixque superante mucronulata, culmo ramoso, foliis distichis patulis convoluto-subulatis glaucis, collo utrinque barbato. *Nees ab Esenb.—Pal. de Beauv. Agrost. p.* 16. *Nees ab Esenb. Agrost. Bras. p.* 400.—Agrostis Virginica. *Linn.*

1. Eragrostis *variabilis;* culmis erectis simplicibus, vaginis foliisque glabris convolutis rigidis collo barbatis, panicula ramosissima, ramis fasciculatis, spiculis 3–14-floris oblongis vel linearibus, palea exteriore acuto-mucronata glumisque dorso denticulato-hispidulis rarius glabris. *Gaud. in Freyc. Voy. p.* 408.

Of this, Gaudichaud enumerates three varieties, our specimens approaching most to his var. *α. culmo procerrimo, panicula diffusa;* but all those in the Collection, although the stem be tall, have the panicle contracted.

1. Eleusine *Indica;* culmo compresso basi repente ramoso, vaginis ore sæpiusque et margine villosis, spicis digitatis strictis, spiculis subsexfloris. *Nees ab Esenb.—Gærtn.—Lam. Ill. t.* 48. *f.* 3. *Trin. Spec. Gram. fasc.* 6. *n.* 71.—Cynosurus Indicus. *Linn.*

1. Saccharum *officinarum. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 281. *Hook. Bot. Misc. v.* 1. *p.* 95. *t.* 26.

1. Andropogon *acicularis. Retz.*—Rhaphis trivialis. *Lour.—Pal. de Beauv. Agrost. p.* 120. *Trin. Spec. Gram. fasc.* 1. *n.* 8 *et* 9. *Rumph. Amb. v.* 6. *t.* 5.

1. Heteropogon *glaber. Pers.—Pal. de Beauv.—Nees ab Esenb. Agrost. Bras. p.* 363. —H. Allionii. *H. B. K.*—Andropogon Allionii. *W.*

Ord. LIII. LYCOPODINEÆ. *Sw.*

1. Psilotum *triquetrum. Sw.*—Bernhardia dichotoma. *Willd.—β. gracile;* ramis longioribus angustioribusque.

2. Psilotum *complanatum. Sw.*—Bernhardia dichotoma. *Willd.*

1. Lycopodium (Phlegmaria) *phyllanthum;* caule dichotomo pendulo, foliis quadrifariis subdistichis lanceolatis acutissimis inferne attenuatis vix petiolatis, squamis capsula duplo longioribus superioribus vacuis foliaceis.

Caulis pedalis et ultra, dichotome divisa, crassitie *pennæ corvinæ. Folia* numerosa, subquadrifariam inserta, tamen directione subdisticha, æqualia, lateralia patentia, inferiora et superiora erecta adpressa nitida, subtus pallidiora, exacte lanceolata, acutissima, rigida, basi attenuata sed vix petiolata. *Spicæ* terminales, dichotomæ, fere digitales, crassiusculæ, subteretes. *Squamæ* erecto-patentes, cordato-ovatæ, acuminatæ, obtusiusculæ, capsulas excedentes, *superiores* longiores, foliaceæ, vacuæ.

The nearest affinity of this species is undoubtedly with *L. Phlegmaria;* but its leaves are more decidedly sessile and narrower; the spikes stouter and broader, in consequence of the larger and more acuminated scales, which are twice the length of the capsules; the upper ones barren and larger, approaching in shape and texture to the true leaves.

2. Lycopodium (Spicata) *curvatum. Linn.—β.* robustius. *Grev. et Hook. Enum. Filic. in Bot. Misc. v.* 2. *p.* 369.

3. Lycopodium (Stachygynandra) *Menziesii;* caule radicante ramoso, foliis bifariis horizontalibus cordato-ovalibus acutis obscure nervosis margine superiore ciliato-serratis ramulorum angustioribus subfalcatis, stipulis cordatis mucronato-serratis, spicis sessilibus linearibus. *Grev. et Hook. Enum. Filic. in Bot. Misc. v.* 2. *p.* 390.—L. Arbuscula. *Hook. et Grev. Ic. Fil. t.* 200. (non *Kaulf.*)

4. Lycopodium (Stachygynandra) *Arbuscula;* caule radicante ramoso, ramis erectis, foliis cordato-ovatis acuminatis, ramulorum bifariis ovato-lanceolatis subfalcatis margine superioribus serratis, superficialibus (seu stipulis) ovatis mucronatis serratis, spicis sessilibus tetragonis longissimis. *Kaulf. Enum. Fil. p.* 19. *Grev. et Hook. Enum. Filic. l. c. p.* 390.

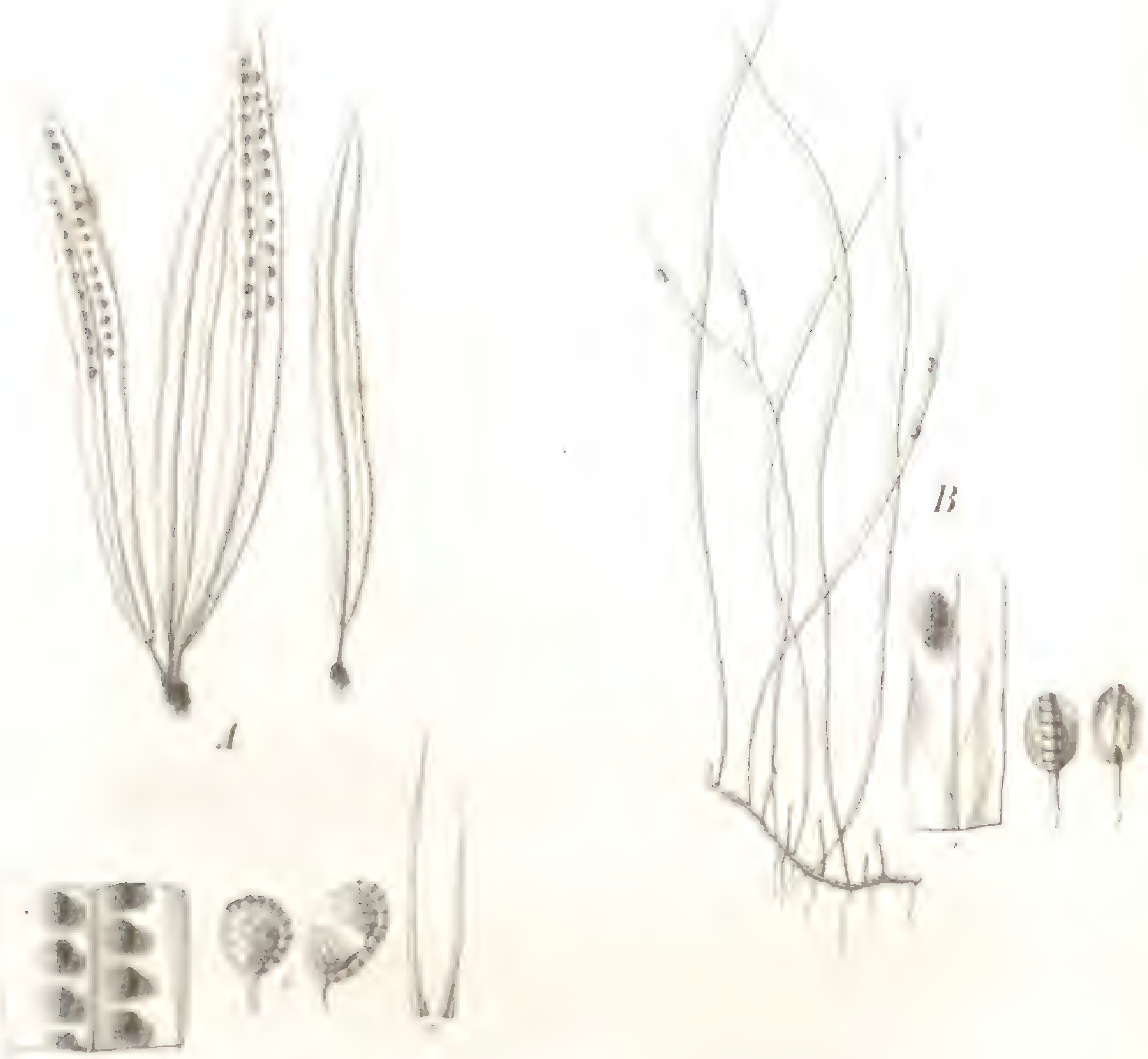
Ord. LIV. OPHIOGLOSSEÆ. *Br.*

1. Ophioglossum *pendulum.*

Ord. LV. MARATTIACEÆ. *Kaulf.*

1. Marattia *alata. Sm.*

We have this from Mr. Macrae, who also gathered it in Oahu. The main stalk is less scaly, and the partial one less winged than in the Jamaica specimens; but the foliage is exactly similar.



A Polypodium Pseudo grammitis
B Polypodium setigerum

W. J. H. del^t

ORD. LVI. GLEICHENIEÆ. *Kaulf.*

1. Gleichenia *Hermanni. Br.—Hook. et Grev. Ic. Fil. t.* 14.

ORD. LVII. POLYPODIACEÆ.

1. Acrostichum *splendens. Willd. Sp. Pl. v.* 5. *p.* 104. *Gaud. in Freyc. Voy. v.* 1. *p.* 303. (non *Kaulf.*)

This is assuredly the plant of Gaudichaud, and agrees with Willdenow's description; but Kaulfuss must have some other species in view when he describes the fronds as on both sides "*stellato-squamosæ.*"

1. Polypodium *atro-punctatum;* frondibus sparsis lineari-lanceolatis elongatis acuminatis basi attenuatis utrinque glabris supra squamosis aut atro-punctatis margine subundulatis, soris solitariis rotundato-oblongis subimmersis junioribus squamuloso-tectis. *Gaud. in Freyc. Voy. v.* 1. *p.* 346.—Pleopeltis elongata. *Kaulf. Enum. Fil. p.* 346, (certé.)

Gaudichaud has accurately described this species, and we think it equally certain that it is the *Pleopeltis elongata* of Kaulfuss; but, in our specimen, the scales on the underside of the frond, and of the fructification, are quite obliterated, and indeed are described as so very fugacious, that we prefer arranging the plant with the *Polypodia* rather than with the *Pleopeltides.*

2. Polypodium *setigerum;* fronde simplici lineari-lanceolata brevissime stipitata utrinque margineque pilis rigidis sparsis atro-purpureis, soris biserialibus approximatis rotundatis setosis. (TAB. XXI. A.)

Radix cæspitosa, fibrosa. *Stipites* 5–6 ex eadem radice, brevissimæ. *Frondes* vix digitales, lineari-lanceolatæ, subcoriaceæ, obtusæ, flavo-virides, costa obscura, basi attenuatæ, utrinque margineque pilis rigidis seu setis atro-purpureis patentibus sparsis obsitæ, margine plano. *Sori* in parte superiore frondis numerosi, approximati, orbiculati, intense fusci. *Capsulæ* setis immixtæ.

TAB. XXI. A. *Fig.* 1, Portion of the frond, with a sorus; *fig.* 2, Capsules; *fig.* 3, Hairs from the frond: *—magnified.*

3. Polypodium *Pseudo-grammitis;* frondibus sparsis linearibus basi longissime attenuatis margine subundulato-crenulatis utrinque glabris, soris rotundato-oblongis sparsis rarissimis, stipite marginato, caudice capillari paleaceo radicante, squamis lanceolatis, radicibus villosis. (TAB. XXI. B.)—*Gaud. in Freyc. Voy. p.* 345.—Grammitis tenella. *Kaulf. Enum. Fil. p.* 84.

The fronds of this are very tender and membranaceous, 1–6 inches long, sometimes unequally forked towards the extremity.

TAB. XXI. B. *Fig.* 1, Portion of the frond, with a sorus; *fig.* 2, Capsules:*—magnified.*

4. Polypodium *spectrum;* caudice longe repente, frondibus simplicibus hastato-cordatis 3–5-lobatis latissimis membranaceis acutissimis reticulatis, soris sparsis, stipite glabro. *Kaulf. Enum. Fil. p.* 94.—P. Thouinianum. *Gaud. in Freyc. Voy. p.* 348. *t.* 5. *f.* 1.

Fronds 6–8 inches in diameter. This remarkable plant does not appear to have been found any where but in the Island of Oahu, whence we also possess specimens, gathered by Mr. Macrae.

5. Polypodium *pellucidum;* frondibus profunde pinnatifidis, laciniis lineari-lanceolatis obtusiusculis repando-dentatis, squamulis dorsalibus submarginalibus albis, venis dichotomo-furcatis striisque interstitialibus pellucidis, soris solitariis. *Kaulf. Enum. Fil. p.* 101. *Gaud. in Freyc. Voy. p.* 356.

6. Polypodium *Adenophorus;* caudice squamoso, squamis lanceolato-acuminatis, stipite brevi clavato-glanduloso, frondibus elongato-lanceolatis profunde pinnatifidis, laciniis triangulari-oblongis obtusis integris parce ciliatis, rachi concolore piloso-glandulosa, capsulis glandulis clavatis immixtis. (TAB. XXII.)—P. pendulum. *Gaud. in Freyc. Voy. p.* 349. (non *Sw.*)—Adenophorus pinnatifidus. *Gaud. in Freyc. Voy. p.* 365.

Caudex crassiusculus, brevis? repens? dense squamosus; *squamis* imbricatis, lanceolato-acuminatis, reticulatis, membranaceis, intense fuscis, nitidis. *Stipes* brevis, vix unciam longus, teres, superne fronde decurrente alatus, pilis glandulosis, clavatis, rubris, patentibus tectus. *Frons* spithamæa ad pedalem, erecta? elastice membranacea, pallide virens, elongato-lanceolata, apice acuminata, inferne sensim attenuata, medio unciam lata, per totam longitudinem profunde, fere ad rachidem, pinnatifida; laciniis horizontaliter pinnatifidis, oblongis, basi latioribus, sensim attenuatis, obtusis (hinc subtriangulari-oblongis), integerrimis sed marginibus paululum sinuatis, pilis subglandulosis parce ciliatis, cæteroquim glabriusculis. *Rachis* viridis, utrinque subprominens, glanduloso-pilosa. *Sori* 1–12 in singula lacinia, arcte dispositi, biseriales. *Capsulæ* fuscæ, pilis claviformibus glandulosis rubris immixtæ.

This has assuredly very much the habit of the well-known *P. pendulum* of the West Indies, and cannot generically be separated from it, without violence to nature. It differs as a species from that plant, in its much greater size, in the dark-coloured longer scales of the short caudex, in the claviform glands of the stipes, in the different colour (never black) of the stipes, and, above all, in the presence of the peculiar club-shaped glands which are mixed with the capsules, and which, it must be confessed, are similar to those which in part characterize the *Adenophori*—a genus, it has been observed in the *Icones Filicum*, only to be distinguished by the habit and peculiar glands, from *Polypodium*. In both, the sori are at the apex of a simple vein, not, that we can find, "dilated into a *receptacle*."

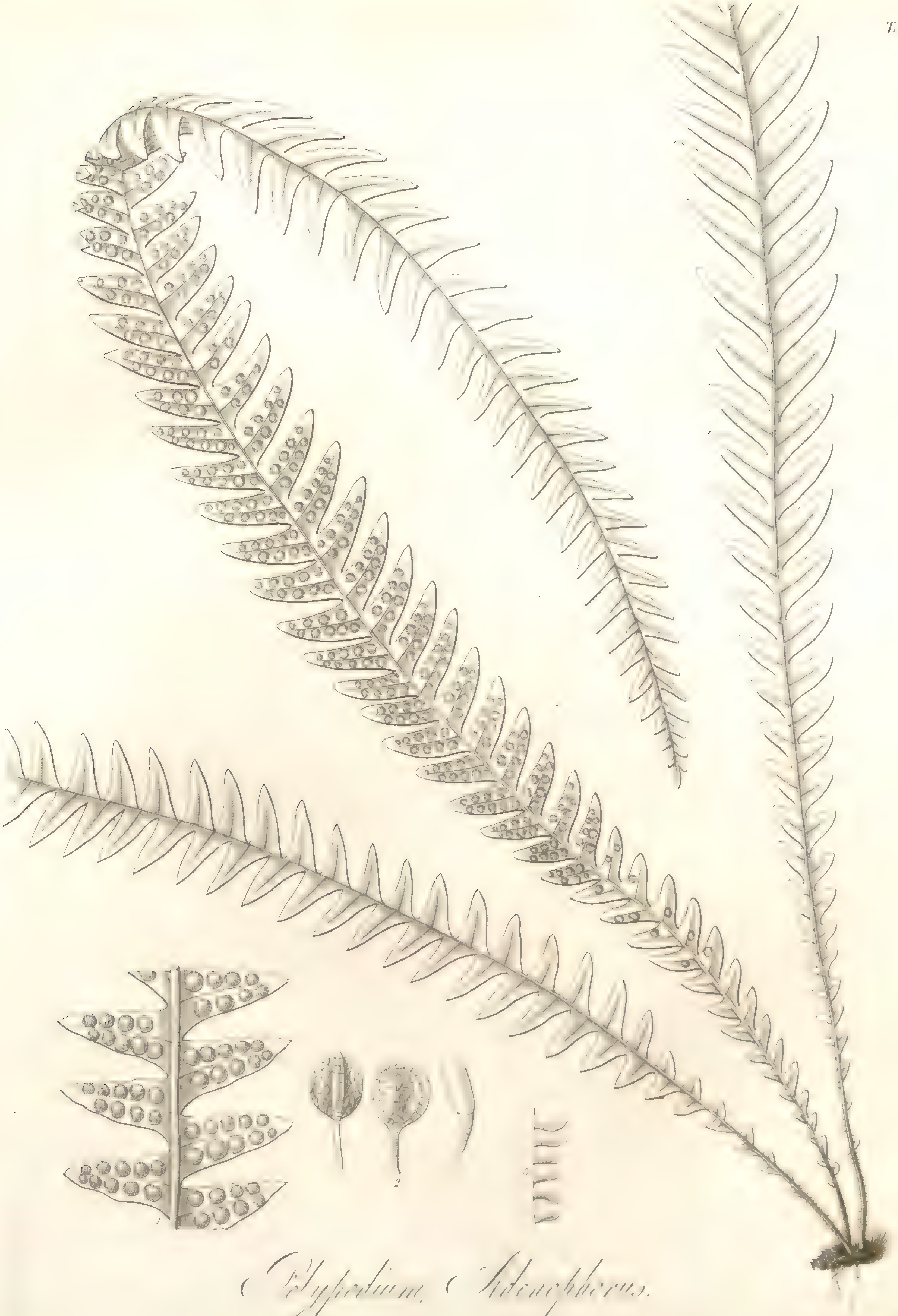
TAB. XXII. *Fig.* 1, Segment of a frond, with sori; *fig.* 2, Capsules and clavate glands; *fig.* 3, Glands from the stipes:—*magnified.*

7. Polypodium *polycarpon;* fronde pinnata, pinnis oblongis acuminatis basi truncatis hinc auriculatis sessilibus sinuato-serratis coriaceis glabris venis superne pubescenti-scabris ad marginem attingentibus et in sinubus versus costam redeuntibus, venulis anastomosantibus medio soriferis, soris numerosissimis.

The only specimen of this plant is destitute of stipes, and presents a frond 12–14 inches long, ovate. Rachis stout, fulvous, glossy, grooved on the upper side. Pinnæ 4–6 inches long, oblong, acuminate, nearly an inch broad at the base, truncate, sessile, divided on the upper side, tapering upwards, often subfalcate, rigid, subcoriaceous, glabrous, except on the costa and nerves above. The costa sends forth its lateral and horizontal nerves opposite the centre of each tooth; these extend to the margin, branch off there and descend in two opposite divisions to the sinus, whence they again enter the substance of the frond, and form, as it were, a parallel intermediate nerve, reaching almost to the costa, and connected with the main vein by transverse bars or veinlets, near the centre of which the sori are produced. A somewhat similar appearance is observable in *Aspidium Debrueilianum;* but there the intermediate nerve seems rather to be formed by the junction of the veinlets.

8. Polypodium *Sandwicense;* glaberrimum decompositum tripinnatum, pinnis lanceolatis acuminatis, pinnulis oblongis obtusis basi decurrentibus grosse serratis, serraturis approximatis acutis subincurvis, soris intra costam et marginem uniserialibus distinctis.

Of this Fern, we are incompetent to speak as to the habit, size, caudex, or stipes. The two specimens in the Herbarium may even not be entire fronds, but portions of a much larger plant. They are two feet long, ovate in outline, and rather acute, twice divided in a pinnated manner in the upper part, below thrice or almost four times pinnated, every where glabrous; all the divisions approximate, the primary ones ovate, TAB. XXII.



Polypodium Adenophorus.

Swan sc.

acuminate, the secondary lanceolate or oblong and acuminate (broadest at the base); the ultimate divisions, or pinnules, oblong, obtuse, strongly and closely serrated with incurved mostly entire teeth. We can find no appearance of an involucre on the sori.

9. Polypodium *unidentatum;* decompositum laxe tripinnatum, pinnulis pinnatifidis lanceolatis attenuatis, laciniis oblongis obtusis subfalcatis crenatis, sinubus soriferis unidentatis.

The specimens in the Herbarium of this *Polypodium* likewise appear to be but fragments, separated from a much larger frond. It is remarkable for the lax distant divisions and subdivisions; for the sori being confined to the sinuses of the notched segments; and for those sinuses having a sharp tooth beneath, or a little on one side of the sinus.

10. Polypodium *crinale;* decomposite pinnatum, pinnis oblongo-lanceolatis obtusissimis rigidis pinnatifidis glabris, laciniis ovatis obtusis, marginibus incurvis unisoriatis, rachibus costaque subtus paleaceo-crinitis.

Fragments only of this very distinct Fern exist in the Collection, from which we may infer that the plant is at least tripinnate; the pinnules 1–2 inches long, of a rigid, almost coriaceous texture, pinnatifid: each lobe of the pinnule bearing a sorus of naked capsules near its superior margin. The rachides, general and partial, and the costa, beneath, are almost shaggy with long, spreading, subulate, or setaceous scales.

1. Adenophorus *bipinnatus;* frondibus lanceolatis bipinnatifidis, laciniis lineari-clavatis decurrentibus, stipite terete obscure marginato.—*Gaud. in Freyc. Voy. p.* 365. *t.* 8. *f.* 2. *Hook. et Grev. Ic. Fil. t.* 174.—A. Tamarisci? *Hook. et Grev. Ic. Fil. t.* 175.—Polypodium Tamariscinum. *Kaulf. Enum. Fil. p.* 117.

2. Adenophorus *hymenophylloides;* frondibus lineari-oblongis bipinnatis, laciniis obovatis decurrentibus, stipite gracillimo filiformi immarginato. *Hook. et Grev. Ic. Fil. t.* 176.—A. minutus. *Gaud. in Freyc. Voy. p.* 365. *t.* 8. *f.* 3.—Polypodium hymenophylloides. *Kaulf. Enum. Fil. p.* 118.

1. Nephrodium *exaltatum. Sw.*

2. Nephrodium *resiniferum;* frondibus pinnatis, pinnis suboppositis linearibus acutis inciso-serratis subtus hirtis, venis resinoso-globulosis, rachi pubescente, soris submarginalibus, indusiis hirtis. *Kaulf. Enum. Fil. p.* 237, (sub *Aspid.*)

3. Nephrodium *Dubrueilianum;* frondibus fasciculatis, pinnis lanceolatis acuminatis basi truncatis subpinnatifidis utrinque glabris, laciniis ovato-falcatis subacutis infimis maximis, soris minutis biserialibus costæ mediæ approximatis, indusio peltato-ciliato, stipite rachique glabriusculis.—Polystichum Dubrueilianum. *Gaud. in Freyc. Voy. p.* 333. *t.* 9.—Aspidium cyatheoides? *Kaulf. Enum. Fil. p.* 234.

This is certainly the plant of Gaudichaud, above referred to; but in our specimens the pinnæ are rather deeply serrated than "subpinnatifid." It is equally, perhaps, the *A. cyatheoides* of Kaulfuss; though differing in being glabrous on the underside.

4. Nephrodium *apifolium;* frondibus bipinnatis, pinnis lato-lanceolatis membranaceis pinnatifidis acuminatis superioribus confluentibus, laciniis oblongo-lanceolatis sinuatis subpinnatifidis glabris subciliatis supra puberulis, soris subserialibus, stipite rachique atro-purpureis nitidissimis glabris, indusiis orbicularibus sinu parvo affixis.—Aspidium apifolium? *Schkuhr, Fil. t.* 56. *b.*—Aspidium sinuatum. *Gaud. in Freyc. Voy. p.* 343. (non *Labill.*)

This appears to be a tall Fern, having a remarkably glossy purple-black stipes and rachis, with membrana-

ceous fronds. It is assuredly the *Aspidium sinuatum* of Gaudichaud, but not of Labillardière, which has a setose stipes and rachis, and tufts of hairs in the sinuses of the margins of the fronds; and is, moreover, a much less divided plant. The *indusia* are very unlike those of *Nephrodium Hippocrepis*, to which it has a considerable affinity, and the colour of the stipes and rachis is different; in the latter particular, too, it is at variance with the *Aspidium apifolium* of Schkuhr; but in all other respects, it seems entirely to accord with that plant, whence we have been induced to adopt that name.

5. Nephrodium *squamigerum;* supra decompositum tri-quadripinnatum, pinnulis oblongis obtusis pinnatifidis basi decurrentibus supra ad nervos præcipue puberulis, stipite rachibusque subtus dense squamulosis, squamis fimbriatis, soris subserialibus intra costam et marginem, indusiis reniformibus tenerrimis fimbriato-ciliatis.

The specimens in the Herbarium are but portions of a larger frond, densely divided, flaccid, the primary divisions acuminated; the upper surface glabrous, or only downy on the secondary rachides and nerves, while the stipes and rachides beneath, and even the primary nerves or costæ, are densely clothed with copious, delicate, membranous, reticulated, and fimbriated scales.

1. Asplenium *resectum. Smith, Icon. ined. p.* 72. *t.* 72. *Forst. Prodr. n.* 427.

2. Asplenium *obliquum. Sw. Syn. Fil. p.* 78, *et* 268. *Schkuhr, Fil. p.* 66. *t.* 71.—A. lucidum? *Forst. Prodr. n.* 429.

In our specimens of this variable plant, the lower pinnæ are much broader than the rest, and again pinnated with 2–4 rhomboid pinnæ.

3. Asplenium *contiguum;* frondibus pinnatis, pinnis lineari-lanceolatis attenuatis inciso-serratis serraturis dentatis basi superiore rotundato-cuneatis subauriculatis inferiore abscisso-attenuatis, soris contiguis costæ parallelis. *Kaulf. Enum. Fil. p.* 172. *Gaud. in Freyc. Voy. p.* 321.

That this may be a state of the following plant, we think very probable; but we cannot agree with Gaudichaud, that it is a variety of *A. horridum.*

4. Asplenium *filiforme;* frondibus pinnatis, pinnis lanceolato-linearibus longissime filiformi-attenuatis inciso-serratis serraturis adpressis subdenticulatis, infimis basi superne lobato-incisis, soris contiguis costæ parallelis. *Kaulf. Enum. Fil. p.* 172.

5. Asplenium *horridum;* frondibus pinnatis, pinnis lineari-lanceolatis attenuatis inciso-lobatis, lobis oblongis truncatis crenatis, soris costæ contiguis parallelis in lobis geminis, stipite rachique hirsutis. *Kaulf. Enum. Fil. p.* 173. *Gaud. in Freyc. Voy. p.* 318.

A very remarkable plant: first detected, as were the two following species, by Mr. Menzies, in the Sandwich Islands.

6. Asplenium *acuminatum;* frondibus bipinnatis glabris, pinnulis lanceolatis acuminatis inciso-pinnatifidis striato-venosis rigidis basi cuneatis hinc auriculatis, lobis dentatis, soris oblique parallelis, rachi subhirsuta.

Habit and texture of the two preceding, but constantly twice pinnated: the primary pinnæ lanceolate, much acuminated, 4–6 inches long, having numerous pinnules, which are from an inch to an inch and a half in length, and more or less deeply inciso-pinnatifid, according to their situation upon the plant. The veins are almost parallel with the costa, and hence give a striated appearance to the pinnules.

7. Asplenium *patens;* frondibus triplicato-pinnatifidis, pinnis patentibus alternis, pinnulis pinnatifidis, laciniis oblongo-cuneatis apice inciso-dentatis. *Kaulf. Enum. Fil. p.* 175. *Gaud. in Freyc. Voy. p.* 320.

This plant is a foot and a half long. Frond linear-oblong, with patent short primary pinnæ of a delicate membranaceous texture. Sori one or two on each lobe.

8. Asplenium *diplazioides;* glabrum, fronde bipinnata, pinnulis subremotis patentibus lanceolato-acuminatis pinnatifidis, lobis ovali-oblongis obtusis crenato-lobatis, soris numerosissimis obliquis sæpe geminatis.

Neither among the many *Asplenia* that have been published, nor among the *Diplazia,* do we find any species that accords with this, which, indeed, partakes as much in the character of the one genus as of the other. The fronds (and we have no perfect stipites) are broadly, almost deltoidly ovate; the divisions rather remote; the primary ones broadly lanceolate, 4–6–8 inches long; the secondary ones or pinnules 2–3 inches long, and half an inch in breadth. Fructifications very copious, at length almost confluent.

9. Asplenium *ambiguum? Sw.—Schkuhr, Fil. t.* 75. *a. b.*

Without the lower part of the frond, which is wanting in our specimen, it is difficult to say if this be decidedly the *A. ambiguum* of Swartz.

10. Asplenium *Poiretianum;* frondibus fasciculatis decompositis utrinque glabris (2–3 pedalibus), foliolis pinnatis, pinnis ovato-lanceolatis acutis pinnatis basi superiore auriculiformibus, pinnulis lineari-lanceolatis subcoadunatis acutis serrato-pinnatifidis rachi ramulisque submarginatis margine laciniato-squamuliformibus, soris subreniformibus minutis costæ mediæ approximatis, caule subarboreo prostrato. *Gaud. in Freyc. Voy. p.* 321. *t.* 13.

1. Darea *flaccida. Willd. Sp. Pl. p.* 295. *β.* pinnis subbipinnatifidis.

This may perhaps prove to be a species distinct from *D. flaccida.* It is often two feet or more in height. The fronds are very flaccid; the pinnæ have the segments (which are linear and bearing one sorus in *D. flaccida*) again pinnatifid with two or three segments, and bearing two sori.

1. Sadleria *cyatheoides;* pinnulis remotiusculis enerviis, rachi nudo glaberrima.—*Kaulf. Enum. Fil. p.* 162.

2. Sadleria *pallida;* pinnulis approximatis nervosis, rachi paleacea. *Hook. et Arn. p.* 75, *hujusce operis.*

See page 75 of the present volume, for some remarks on this plant.

1. Pteris *pedata. Willd. Sp. Pl. p.* 358. *Langsd. et Fisch. Ic. Fil. p.* 17. *t.* 20.

This is indeed a very variable plant, yet easily recognised in its different states by the peculiar ramification of the frond. The *P. geraniifolia* of Raddi, Fil. Bras. t. 67, tolerably correctly represents the state of the single specimen of this plant in the Collection.

2. Pteris *alata;* frondibus (3–4 pedal.) tripinnatifidis tetrapinnatifidisve, pinnis oppositis, pinnulis lineari-lanceolatis irregulariter lobato-pinnatifidis acuminatis, laciniis oblongo-lanceolatis subobtusis integris plerumque abortivis, inferioribus dentato-subcrenulatis, rachi late alata, stipite triangulari atro-rubro basi paleaceo. *Gaud. in Freyc. Voy. p.* 391. *t.* 19, (excellent.)—P. irregularis. *Kaulf. Enum. Fil. p.* 189.

1. Doodia *Kunthiana;* frondibus fasciculatis lanceolatis subacutis serrulatis superioribus adnatis inferioribus petiolatis basi cordatis infimis subauriculatis, stipite elongato rugoso basi squamoso. *Gaud. in Freyc. Voy. p.* 401. *t.* 14.

1. Vittaria *elongata. Sw.*

1. Davallia *Macræana;* fronde pinnata, pinnis membranaceis glabris dimidiato-oblongis obtusis basi oblique truncatis cuneato-attenuatis margine superiore crenatis dentibus soriferis, caudice longe repente.

This beautiful Fern has been already alluded to by Dr. Greville and Dr. Hooker, when describing *Davallia Boryana*, at tab. cxliii. of the *Icones Filicum.* To that species ours is very nearly allied, differing principally in its more rigid frond, and in the upper margin of each pinnule, which, in *D. Boryana*, is irregularly cut and crenate, with few sori. Here, the crenation is very regular, and each tooth has its sorus at a certain distance from the margin, so that the fructifications form a line.

2. Davallia *remota;* frondibus tripinnatis, pinnis inferioribus oppositis remotis superioribus alternis caudatis, pinnulis inferioribus profunde pinnatifidis, mediis laciniisque cuneatis subtrifidis, lacinulis truncatis subbifloris, rachi supra angulata, indusiis subrotundis. *Kaulf. Enum. Fil. p.* 223.

Kaulfuss well observes that the laciniæ are much broader than those of *D. tenuifolia:* this is the case, especially if compared with the figure in Schkuhr, (tab. cxxviii. A., sub nom. *D. venustæ;*) but our specimens from the Mauritius, under the name of *D. tenuifolia*, and, we presume, the plant of Willdenow, are identical with the present.

3. Davallia *hirta;* frondibus tripinnatis, pinnulis ovatis obtusis superiore et antice subincisis, laciniis dentatis, rachibus hirtis, indusiis intramarginalibus venisque subtus pilosis. *Kaulf. Enum. Fil. p.* 223.—Dicksonia Kaulfussiana. *Gaud. in Freyc. Voy. p.* 368?

1. Dicksonia *flaccida. Sw. Syn. Fil. p.* 137. *Schkuhr, Fil. t.* 129.

1. Cibotium *glaucum.*—Cibotium Chamissoi. *Kaulf. Enum. Fil. p.* 230. *t.* 1. *f.* 11, (*April*, 1824.)—Pinonia splendens. *Gaud. in Ann. des Sc. Nat. Dec.* 1824, *idem in Freyc. Voy. p.* 369. *t.* 21.—Dicksonia glauca. *Sm. in Rees' Cycl.*

The genus *Cibotium* is thus defined by Kaulfuss: " *Sori* globosi submarginales contigui. *Indusia* cartilaginea globosa fornicata verticaliter oris callosis dehiscentia, bivalvia, valvula exteriori majori." To this, besides his *C. Chamissoi*, Kaulfuss has referred the *Dicksonia antarctica;* but to us the latter appears to belong to the same author's genus *Balantium*, if that be really distinct from *Cibotium.* In *Cibotium*, the involucre or indusium is a distinct substance from the margin of the frond: in *Balantium*, the outer valve of the involucre is formed of the substance of the margin of the frond.—Mr. Menzies first detected this plant in the Sandwich Islands, in the year 1787, and we have long been in possession of two states of it, presented to us by that liberal Botanist: the one with longer and narrower pinnæ, more deeply cut in a pinnatifid manner, the lower segments *distinct*, forming separate pinnules, all very glaucous beneath;—the other with pinnæ not at all glaucous, and more coriaceous in texture, not so deeply pinnatifid, and nowhere are the pinnæ again pinnated. Captain Beechey's Collection contains likewise two states, the first resembling the glaucous variety of Mr. Menzies, but it is less glaucous; the other not at all glaucous, larger in all its parts, particularly in the sori, which are fewer on each lacinia, and more confined to the lower part of it, while the pinna is pinnatifid, with broad, rounded laciniæ, which do not extend half way to the rachis.

1. Deparia *prolifera.*—D. Macræi. *Hook. et Grev. Ic. Fil. t.* 154.—Dicksonia prolifera. *Kaulf. Enum. Fil. p.* 225.

The following is the character of this genus:—DEPARIA, *Hook. et Grev.*;—*Sori* subglobosi in dentibus ad margines frondis venulas terminantes. *Involucrum* infra sorum insertum, pateriforme, membranaceum, margine sublaceratum.

1. Hymenophyllum *recurvum;* frondibus bipinnatis (6–8-pollic.), pinnis elongato-recurvatis, pinnulis dichotomo-pinnatifidis, laciniis simplicibus elongatis integris, soris supra axillaribus solitariis, indusiis ovatis (latissimis), rachi stipiteque alatis, caudice filiformi repente. *Gaud. in Freyc. Voy. p.* 376.

Colour, a pale delicate green.

2. Hymenophyllum *lanceolatum;* fronde lanceolata (3-pollic. badia) pinnata, pinnis ovato-lanceolatis bipinnatifidis, laciniis linearibus obtusis erecto-patentibus marginibus pilosis, pilis erectis simplicibus solitariis vel subfasciculatis, stipite terete hirsuto, rachi superne alata, indusiis subrotundis compressis longe ciliatis lacinias laterales terminantibus.

This is distinguished by its dark brown colour, the lanceolate circumscription of the frond, with erecto-patent divisions, fringed with upright hairs, and the ciliated, nearly orbicular, indusia.

3. Hymenophyllum *obtusum;* frondibus cæspitosis oblongis obtusissimis tripinnatifidis, laciniis (approximatis) linearibus erecto-patentibus, costa marginibusque pilis longis stellatis obsitis, stipite gracillimo hirto, indusiis (in laciniis supremis) terminalibus orbicularibus pilis ramosis dense ciliatis.

This may be known from *H. hirsutum* by the longer branched or stellated hairs, which are confined wholly to the midrib and margin. The ultimate laciniæ are somewhat corymbose, generally reaching to the same height, so as to give almost a truncated appearance to the outline of the frond.

ORD. LVIII. MUSCI. *Linn.*

1. Octoblepharum *albidum. Hedw.*

1. Thysanomitrion *umbellatum? Arn.—Schwaegr.*

This has no fruit, and we are doubtful, in consequence, of the species.

1. Dicranum *megalophyllum. Brid.*—Sphagnum Javense. *Brid. Schwaegr. Suppl. II. t.* 102.

1. Macromitrion *piliferum. Schwaegr. in Freyc.—ejusd. Suppl. Sp. Musc. II. p.* 65. *t.* 172.

1. Neckera *dendroides. Hook. Musc. Exot. t.* 69.

1. Hypnum *spiniforme. Hedw.*

2. Hypnum *proliferum. Linn.*

3. Hypnum *Sandvicense;* ramis pinnatis, foliis distichis teneris nitidis ovato-lanceolatis falcato-secundis acuminatis concavis undique serrulatis, nervo brevissimo obscuro, capsula brevi-ovata cernua, calyptra juniore apice pilosa.

This is a small delicate species, in some respects allied to *H. elegans,* Musc. Exot., and in others to *H. circinale,* but differing by the characters above given.

Some other of the *Hypnoid* family are in the Collection, but without fructification, and although probably new species, yet in too imperfect a state to allow us to describe them in a satisfactory manner.—The same may be said of some of the next Order, the *Hepaticæ.*

Ord. LIX. HEPATICÆ.

1. Jungermannia *multifida. Linn.*

2. Jungermannia *Phyllanthus. Hook. Musc. Exot. t.* 95.

3. Jungermannia *bicuspidata, var. Linn.*

4. Jungermannia *conchifolia;* exstipulata cæspitosa, foliis bifariis equaliter bilobis, lobis conduplicatis concavissimis integerrimis, fructu? (Tab. XXIII.)

In habit and mode of growth, much resembling the *J. cochleariformis* of Europe, and the *J. sphagnoides* of St. Helena, but totally different from both in the structure of its leaves.

Tab. XXIII. *Fig.* 1, Portion of a branch; *fig.* 2, leaves:—*magnified.*

5. Jungermannia *trilobata. Linn.—Hook. Brit. Jung. t.* 76.

Ord. LX. LICHENES.

1. Sticta *dissecta. Sw. Lich. Americ. t.* 8. *Gaud. in Freyc. Voy. p.* 200.

1. Peltidea *venosa. Ach.*

2. Peltidea *aphthosa? Ach.*

1. Usnea *hirta. Ach.*

2. Usnea *florida. Ach.*

1. Stereocaulon *ramulosum. Ach.—Gaud. in Freyc. Voy. p.* 211.

1. Cenomyce *fimbriata. Ach.*

Ord. LXI. ALGÆ.

1. Sargassum *vulgare. Ag.*—Fucus natans. *Linn.—Turn. Hist. Fuc. t.* 46.

The other *Algæ* are too imperfect to be determined.

The following plants, which seem to be also from Oahu, were found in a separate part of the Collection.

PITTOSPOREÆ. *Brown.*

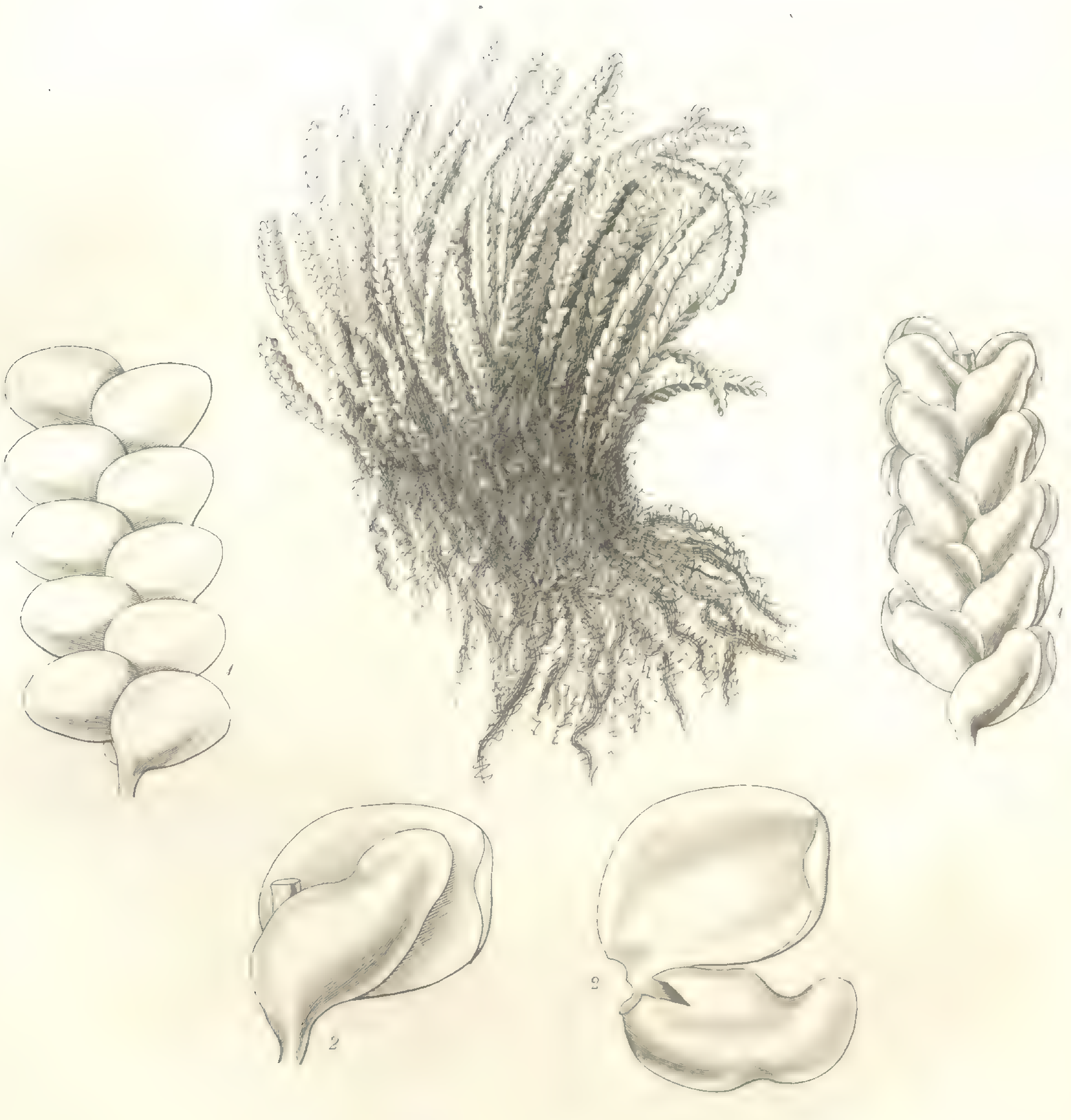
1. Pittosporum *glabrum;* foliis oblongo-obovatis obtusis basi attenuatis utrinque glaberrimis supra nitidis, cymis axillaribus pedunculatis paucifloris, floribus glabris.

This species is very closely allied to *P. revolutum*, but is glabrous in every part. The fruit is as large as a hasel nut, bursting longitudinally.

ELÆOCARPEÆ. *Juss.*

1. Elæocarpus *bifidus;* foliis ovato-acuminatis remote serratis longe petiolatis, racemis axillaribus laxifloris, petalis apice bifidis. (Tab. XXIV.)

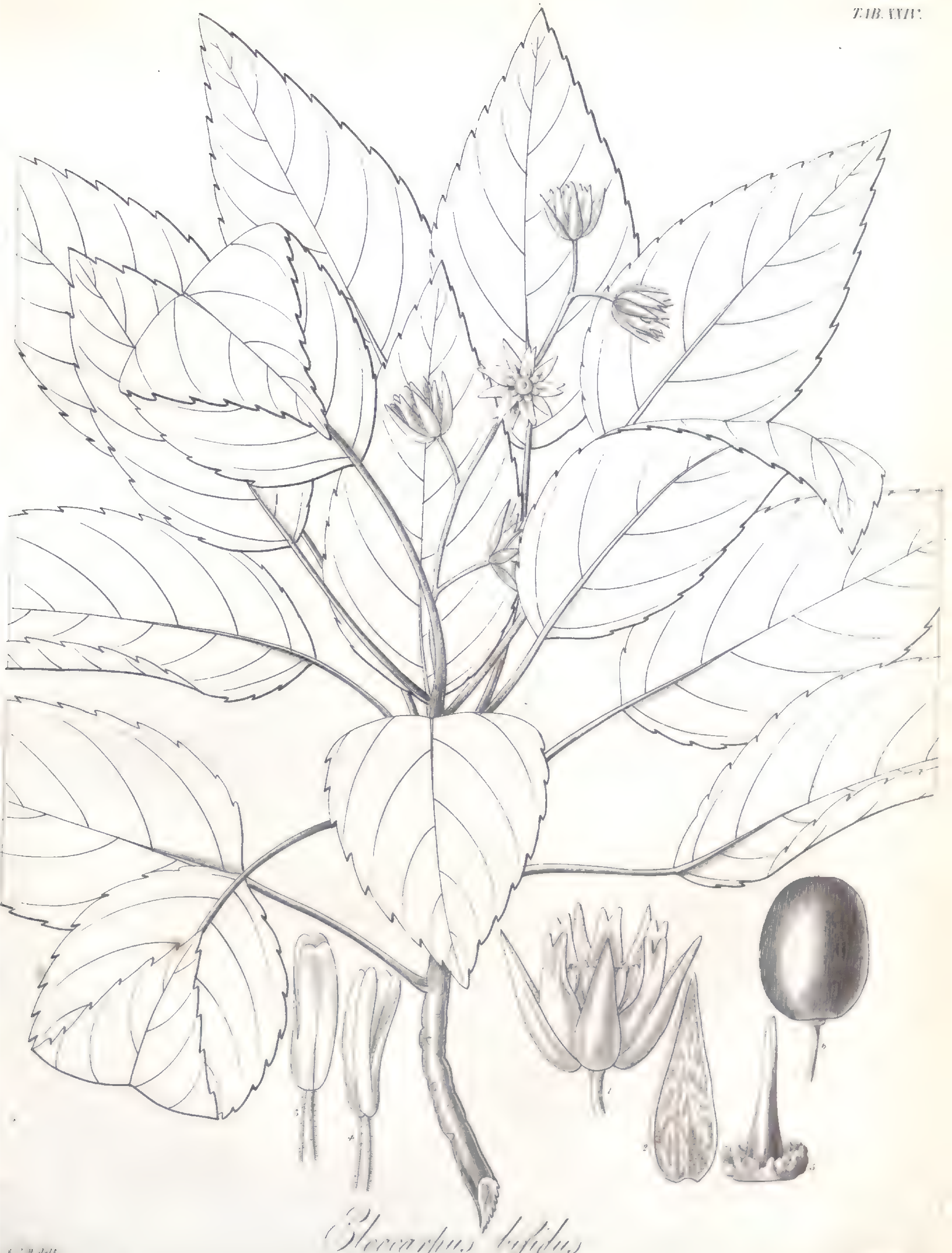
Arbor, ramis intense fuscis subrugosis, junioribus apicibus gummiferis. *Folia* digitalia, ovato-acuminata, subcoriacea, utrinque glaberrima, penninervia, remote serrata, serraturis appressis, longe petiolata. *Racemi* axillares, petiolo longiores, 5–6-flori. *Calyx* 5-sepalus, *sepalis* ovato-lanceolatis, acutiusculis, intus pubes-



Jungermannia conchifolia.

W.J.H. del.   Swan Sc.

TAB. XXIV.

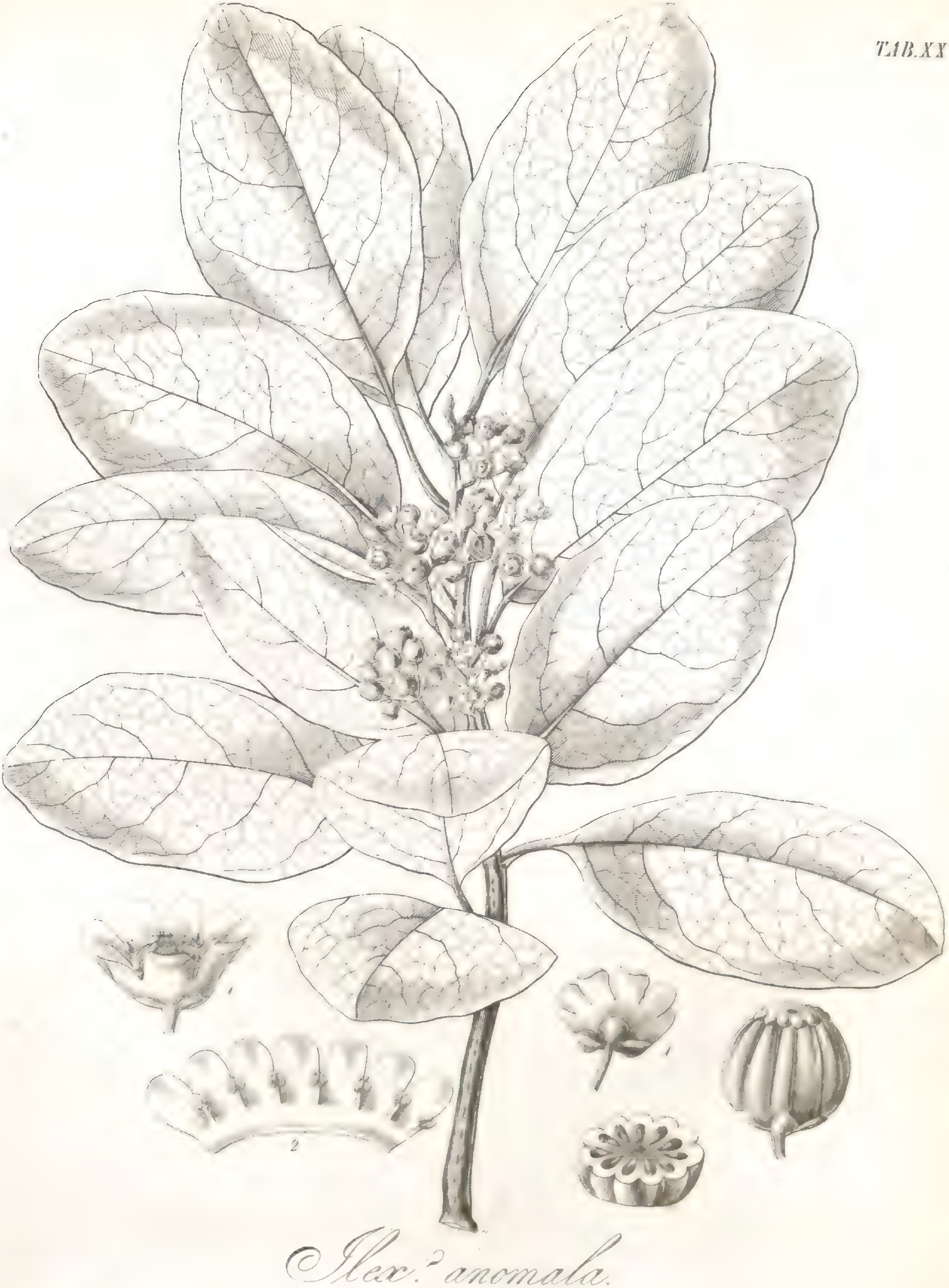


Elæocarpus bifidus

C. H. del.

Swan Sc.

TAB. XXV.



Ilex? anomala.

W. J. H. del.

Swan Sc.

centibus. *Petala* calycem æquantia, oblongo-ovata, extus pubescentia, marginibus revolutis, apice bifida, integerrima, sinu segmentisque obtusis. *Torus* discoideus, glandulosus. *Stamina* 14–16: *filamenta* brevia pubescentia: *antheræ* lineari-oblongæ, apice emarginatæ, ultra medium bipartibiles, omnino muticæ. *Germen* ovatum in stylum utrinque sulcatum sensim attenuatum. *Stigma* obtusum. *Drupa* magnitudine *Nucis Myristicæ*. *Semen* solitarium.

This agrees in every respect with the genus *Elæocarpus*, except that the petals are bifid, not trifid and lacerated; nor are the anthers setigerous. Indeed, the bifid petals might seem at first to remove it from this Order, with which, however, it otherwise entirely accords.

TAB. XXIV. Elæocarpus bifidus. *Fig.* 1, Flower; *fig.* 2, Inner view of a sepal; *fig.* 3, 4, Stamens; *fig.* 5, Torus and pistil.

ILICINEÆ. *Brown.*

1. Ilex? *anomala;* foliis ovalibus planis coriaceis integerrimis supra lucidis, pedunculis axillaribus cymosis, corolla 6–8-fida, stigmate 12–16-radiato. (TAB. XXV.)

Caulis arborescens. *Rami* subangulati, siccitate rugosi. *Folia* alterna, ovalia, obtusa, petiolata, supra lucida, subtus pallidiora opaca siccitate margine recurvo, tres uncias longa. *Petiolus* supra canaliculatus submarginatus, subtus rugosus, unciam longus. *Pedunculi* axillares, petiolum superantes, cymum trichotome divisum pauciflorum gerentes. *Bracteæ* ovatæ, acutæ, oppositæ, membranaceæ. *Flores* magnitudine *Ilicis Aquifolii*. *Calyx* parvus, leviter 3–4-lobus, lobis rotundatis. *Corolla* monopetala, breviter campanulata, profunde 6–8-fida, lobis rotundatis. *Stamina* 6–8-loba corollæ alternantia, eique inserta, inclusa: *filamenta* brevia, glabra: *antheræ* subsphæricæ. *Germen* globosum, carnosum, 12–16-sulcatum, 12–16-loculare: *ovula* solitaria. *Stylus* 0. *Stigma* sessile, planum, centro depressum, 12–16-radiatum.

This species differs from *Ilex*, and from all the other genera of the groupe, by the cells of the germen and rays of the stigma being twice as numerous as the segments of the calyx and corolla. We have not seen the mature fruit, but, judging from the specimens before us, suppose it a berry. The stigma is very remarkable, and only to be compared with that of the genus *Papaver*.

TAB. XXV. Ilex? anomala. *Fig.* 1, 1, Flowers; *fig.* 2, Corolla, cut open; *fig.* 3, Capsule, immature; *fig.* 4, Section of do.

KAMTSCHATKA.

[All are from Avatschka Bay, in lat. 53°.]

ORD. I. RANUNCULACEÆ. *Juss.*

1. Clematis *Sibirica. Mill.—De Cand. Prodr. v.* 1. *p.* 10. *Bot. Mag. t.* 1951.

1. Thalictrum *majus? Linn.—Engl. Bot. t.* 611.

This is without flower: we are therefore doubtful in regard to its identity with *T. majus.*

1. Anemone *reflexa;* foliis ternatim sectis segmentis subtrifidis apice dentatis, involucralibus petiolatis conformibus, sepalis 5–6 linearibus obtusis reflexis. *DC.—Steph. in Willd.* —*De Cand. Prodr. v.* 1. *p.* 20. *De Less. Ic. Sel. v.* 1. *t.* 15.—A. cærulea. *De Cand.—De Less. Ic. Sel. t.* 14.

Judging from specimens which we have received from Dr. Fischer of *A. reflexa* and *A. cærulea*, we think they may be safely united.

1. Ranunculus *auricomus. Linn.—Engl. Bot. t.* 624.

2. Ranunculus *repens. Linn.—Engl. Bot. t.* 516.

1. Caltha *palustris. Linn.—Engl. Bot. t.* 506.

1. Actæa *cimicifuga. Linn. Amœn.—De Cand. Prodr. v.* 1. *p.* 64.—β. simplex. *De Cand.*—Cimicifuga simplex. *Wormsk. ex Fisch.*

Professor De Candolle doubts if the var. β. (the only kind in the Herbarium,) may not be a distinct species from α.

Ord. II. FUMARIACEÆ. *De Cand.*

1. Corydalis *ambigua;* radice bulbosa solida, caule subsimplici erecto sub ramo infimove folio squamigero, foliis 2–3 biternatim sectis segmentis ovalibus obtusis subcuneatis primariis longe petiolatis, racemo multifloro laxo, bracteis integris, siliquis linearibus erectis. *Cham. in Linnæa, v.* 1. *p.* 558. (*et in Herb. nostr.*)

Ord. III. CRUCIFERÆ. *Juss.*

1. Barbaræa *vulgaris. Br.—De Cand. Prodr. v.* 1. *p.* 140. *Hook. Fl. Bor. Am. v.* 1. *p.* 39.—Erysimum Barbarea. *Engl. Bot. t.* 443.

1. Arabis *alpina. Linn.—De Cand. Prodr. v.* 1. *p.* 142. *Hook. Fl. Bor. Am. v.* 1. *p.* 41.

2. Arabis *ambigua;* foliis subglabris radicalibus sinuato-lyratis mediis oblongo-ovalibus dentatis summis oblongo-linearibus integris, caule subsimplici, siliquis erectiusculis. *De Cand. Prodr. v.* 1. *p.* 145. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 16.

Our specimens are not in fruit, and without it we are unable to determine whether it may not be a *Sisymbrium*, and the same with *S. arabidoides*, (Hook. in Fl. Bor. Am. v. 1. p. 63. t. 21. *Arabis lyrata*, Linn.) which it very much resembles.

1. Cardamine *hirsuta. Linn.—De Cand. Prodr. v.* 1. *p.* 152. *Engl. Bot. t.* 492. *Hook. Fl. Bor. Am. v.* 1. *p.* 45.

1. Draba *stellata. Jacq. Obs. n.* 54. *t.* 4. *f.* 3. *De Cand. Prodr. v.* 1. *p.* 169. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 22.

2. Draba *incana. Linn.—Engl. Bot. t.* 388. *Hook. Fl. Bor. Am. v.* 1. *p.* 55.—D. contorta. *De Cand. Prodr. v.* 1. *p.* 170.

1. Erysimum *lanceolatum. Br.—De Cand. Prodr. v.* 1. *p.* 199. *Hook. Fl. Bor. Am. v.* 1. *p.* 64.—Cheiranthus erysimoides. *Linn.—Jacq. Anstr. v.* 1. *p.* 174.

Ord. IV. VIOLARIEÆ. *De Cand.*

1. Viola *canina. Linn.—De Cand. Prodr. v.* 1. *p.* 298. *Ging. in Linnæa, v.* 1. *p.* 407. *Hook. Fl. Bor. Am. v.* 1. *p.* 79.

Ord. V. CARYOPHYLLEÆ. *Juss.*

1. Arenaria *lateriflora. Linn.—De Cand. Prodr. v.* 1. *p.* 412. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 37. *Hook. in Fl. Bor. Am. v.* 1. *p.* 102.

2. Arenaria *peploides. Linn.—De Cand. Prodr. v.* 1. *p.* 413. *Engl. Bot. t.* 189. *Hook. Fl. Bor. Am. v.* 1. *p.* 102.

1. Cerastium *alpinum. Linn.*—β. foliis longioribus angustioribusque.—C. Fischerianum? *Ser. in De Cand. Prodr. v.* 1. *p.* 60.

The leaves of *C. Fischerianum*, from the same country, are described as ovate; those of our plant are narrow-lanceolate.

ORD. VI. GERANIACEÆ. *Juss.*

1. Geranium *erianthum;* caule tereti subsimplici inferne nudo, foliis omnibus petiolatis palmato-5–7-lobis lobis incisis acute serratis laceris, pedunculis confertis abbreviatis, calycibus villosissimis, petalis integris, staminum filamentis pilosis. *De Cand. Prodr. v.* 1. *p.* 641.

The *G. eriostemon*, of Fischer and De Candolle, does not appear to us to be distinct from this.

ORD. VII. LEGUMINOSÆ. *Juss.*

1. Lathyrus *pisiformis. Linn.—De Cand. Prodr. v.* 2. *p.* 371. *Hook. Fl. Bor. Am. v.* 1. *p.* 158.—Pisum maritimum. *Linn.—De Cand. Prodr. v.* 2. *p.* 368. *Engl. Bot. t.* 1046. *Gmel. Fl. Sib. v.* 4. *p.* 7. *t.* 1.

2. Lathyrus *palustris. Linn.—De Cand. Prodr. v.* 2. *p.* 371. *Engl. Bot. t.* 169. *Hook. Fl. Bor. Am. v.* 1. *p.* 161.

ORD. VIII. ROSACEÆ. *Juss.*

1. Spiræa *chamædrifolia. Linn.—De Cand. Prodr. v.* 2. *p.* 542.

2. Spiræa *Aruncus. Linn.—De Cand. Prodr. v.* 2. *p.* 544.

1. Geum *macrophyllum. Willd. Enum.—De Cand. Prodr. v.* 2. *p.* 550.—G. strictum. *Ait.?*

1. Rubus *arcticus. Linn.—De Cand. Prodr. v.* 2. *p.* 565. *Engl. Bot. t.* 1585. *Hook. Fl. Bor. Am. v.* 1. *p.* 182.

1. Potentilla *villosa. Pall.—Lehm. Monogr. Pot. p.* 166. *t.* 16. *De Cand. Prodr. v.* 2. *p.* 573. *Hook. Fl. Bor. Am. v.* 1. *p.* 164.—β. *gracilis;* foliis tenerioribus subtus concoloribus.

This plant (the *var.* β.) is probably distinct from the *P. villosa*, which Chamisso remarks is not found on the Asiatic side of Behring's Strait. Ours is much slenderer and more procumbent: the leaves are thinner, with the nerves not impressed; on both sides, especially at the margins, they are sericeo-pilose with appressed hairs, not at all white, nor with prominent veins beneath.

2. Potentilla *anserina. Linn.—De Cand. Prodr. v.* 2. *p.* 582. *Engl. Bot. t.* 861. *Hook. Fl. Bor. Am. v.* 1. *p.* 189.

3. Potentilla *fragarioides;* caule erecto dichotomo, stolonibus reptantibus, foliis pilosis radicalibus pinnatisectis lobis ovato-lanceolatis (ovalibusve) dentatis distantibus subconcoloribus, lobis caulinis ternato-quinatoque pinnatisectis, stipulis lanceolatis acutis, laciniis calycinis ovatis obtusiusculis inter se subæqualibus, petalis obovato-subrotundis calyce vix

longioribus, carpellis ovatis vix rugosis pallidis. *De Cand. Prodr. v.* 2. *p.* 583.—*Lehm. Monogr. Pot. p.* 50. *t.* 4. *Gmel. Fl. Sib. v.* 3. *t.* 34. *f.* 2.

Our specimens are rather larger, and have broader leaflets, but otherwise accord well with the figures above quoted. At the same time, we must observe that the *P. Sprengeliana*, (Lehm. Pot. t. 3.) comes so very near our plant, that if the flowers be yellow, which cannot positively be determined from the individuals in the Herbarium, those before us may probably be rather united to that species than to *P. fragarioides.*

1. Rosa *Kamtschatica;* (Sect. *feroces, rami tomento persistente vestiti, fructus nudus*), aculeis infra stipularibus falcatis majoribus, foliis opacis. *Lindl.—Vent. Hort. Cels. t.* 67. *Lindl. in Bot. Reg. t.* 419.

1. Pyrus *sambucifolia;* foliis 5-jugis, foliolis ovato-lanceolatis argute serratis acuminatis nervo et margine pilosis apice barbatis, stipulis rufo-villosis. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 36.

Chamisso remarks that this occurs on bushy banks about the harbour of Petropaulski, and that no tree is found there besides, except the Beech.

Ord. IX. CRASSULACEÆ. *De Cand.*

1. Sedum *Rhodiola. De Cand. Prodr. v.* 3. *p.* 401.—Rhodiola rosea. *Linn.—Engl. Bot. t.* 508.

Ord. X. SAXIFRAGEÆ. *Juss.*

1. Saxifraga *punctata;* (Sect. *Hydatica*), foliis radicalibus longe petiolatis reniformi-cordatis rotundatis membranaceis pilosis reticulatis profunde grosse æqualiter dentatis immarginatis, dentibus integris discretis (plerumque) acutis, caule aphyllo, floribus (parvis) paniculatis, panicula glandulosa bracteata, bracteis minutis linearibus, filamentis sæpissime abortivis petaloideis, calyce reflexo.—*Linn. Sp. Pl. p.* 574. *Sternb. Saxifr. Suppl. p.* 7. *t.* 4. *Sm. in Rees' Cycl. Ledeb. Fl. Alt. v.* 2. *p.* 118.—S. hirsuta, β. *punctata. De Cand. Prodr. v.* 4. *p.* 42.—S. gracilis. *Sternb. Saxifr. Suppl. p.* 7. *t.* 5. *f.* 1.—S. æstivalis. *Fischer, in Herb. nostr. Gmel. Fl. Sib. v.* 4. *p.* 161. *t.* 65. *f.* 1.

A strange confusion has existed respecting this plant, which, nevertheless, is well described by Linnæus, from Gmelin's specimens, collected in Eastern Siberia. Sternberg has correctly figured small individuals in the plates above quoted, but under the name of *S. gracilis,* and likewise as the true *S. punctata.* Mr. Don has referred Linnæus's plant to *S. umbrosa,* from which it is widely different, while Gmelin's figure, and the plant of Sternberg, he has quoted under *S. Geum.*

2. Saxifraga *bronchialis. Linn.—Sternb. Saxifr. p.* 13. *t.* 10. *f. a. b.*—β. *minor;* caule procumbente, foliis abbreviatis oblongis subspathulatis acutis muticis.—S. cherleroides. *Don, in Linn. Trans. v.* 13. *p.* 382.

At first sight, the *var.* β., the only one in our Collection, and which we have also from Wormskiold, gathered likewise in Kamtschatka, appears to be distinct from *S. bronchialis;* but we possess, from Mr. Menzies, found in Behring's Strait, specimens exactly intermediate. It has much the habit of *S. Chamissoi,* but the leaves in that are tridentate.

1. Chrysosplenium *Kamtschaticum? Fischer, in De Cand. Prodr. v.* 4. *p.* 48.

We cannot judge, from our solitary specimen, whether this be really distinct or not from *C. oppositifolium.*

ORD. XI. UMBELLIFERÆ. *Juss.*

1. Ligusticum *Scoticum. Linn.—De Cand. Prodr. v.* 4. *p.* 157. *Engl. Bot. t.* 1207. ***Cham. et Schlecht. in Linnæa, v.* 1. *p.* 390.**

1. Heracleum *Sphondylium. Linn.?—De Cand. Prodr. v.* 4. *p.* 192? *Engl. Bot. t.* 939? ***Cham. et Schlecht. in Linnæa, v.* 1. *p.* 394.**

Of this plant, we only judge from some fragments of a leaf in the Herbarium: Chamisso was, for a similar reason, uncertain about his specimen.

1. Anthriscus *nemorosa;* caule sulcato ramoso glabro, foliis trisecto-decompositis segmentis pinnatifidis, laciniis lato-lanceolatis acutis, petiolis pilosis, umbellis terminalibus et oppositifoliis, involucelli foliolis ciliatis, fructibus ovatis brevibus mucronatis et serie pilorum basi cinctis. *DC.—Spreng. Umbell. Prodr. p.* 27. *De Cand. Prodr. v.* 4. *p.* 223. ***Cham. et Schlecht. in Linnæa, v.* 1. *p.* 390.**

ORD. XII. CORNEÆ. *De Cand.*

1. Cornus *Suecica. Linn.—De Cand. Prodr. v.* 4. *p.* 274. *Engl. Bot. t.* 310. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 139.

ORD. XIII. CAPRIFOLIACEÆ. *Juss.*

1. Sambucus *racemosa. Linn.—De Cand. Prodr. v.* 4. *p.* 323.—*Gmel. Fl. Sib. v.* 3. *p.* 147.

1. Lonicera *nigra. Linn.—De Cand. Prodr. v.* 4. *p.* 335. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 137.

2. Lonicera *cærulea. Linn.—De Cand. Prodr. v.* 4. *p.* 337. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 138.

ORD. XIV. RUBIACEÆ. *Juss.*

1. Galium *rubioides. Linn.—De Cand. Prodr. v.* 4. *p.* 599. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 220.

ORD. XV. COMPOSITÆ. *Juss.*

1. Leontodon *Taraxacum. Linn.*

1. Artemisia *Tilesii? Ledeb.—Lessing, in Linnæa, v.* 6. *p.* 214.

Our specimens in this part of the Collection have no flowers.

2. Artemisia *borealis. Pall.—Lessing, in Linnæa, v.* 6. *p.* 211. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30.

1. Gnaphalium *dioicum. Linn.—Engl. Bot. t.* 267.

1. Cacalia *hastata. Linn.—Willd. Sp. Pl. v.* 3. *p.* 1733. *Gmel. Fl. Sib. v.* 2. *p.* 136. *t.* 66.

1. Chrysanthemum *arcticum. Linn.—Willd. Sp. Pl. v.* 3. *p.* 2146. *Lessing, in Linnæa, v.* 6. *p.* 169. *Gmel. Fl. Sib. v.* 2. *p.* 203. *t.* 84.

1. Saussurea *alpina. De Cand.*—Serratula alpina. *Linn.—Engl. Bot. t.* 599.

There is in the Collection, a leaf of what appears to be a species of *Cnicus*, which is large, deeply pinnatifid, with the segments lanceolate and laciniated, the laciniæ terminated by a long and soft spinule.

ORD. XVI. ERICINEÆ. *Juss.*

1. Rhododendron *Kamtschaticum. Pall. Fl. Ross. p.* 44. *t.* 33. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 573.

1. Pyrola *minor. Linn.—Engl. Bot. t.* 158.

1. Vaccinium *Vitis Idæa. Linn.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 526.

2. Vaccinium *uliginosum. Linn.—Cham. et Schlecht. v.* 1. *p.* 526.

ORD. XVII. POLEMONIDEÆ. *Juss.*

1. Polemonium *humile. Willd. MSS. in Roem. et Schult. Syst. Veget. v.* 4. *p.* 792. *Lindl. in Bot. Reg. t.* 1304.—P. lanatum. *Fischer, MSS.*—P. pulcherrimum? *Hook. in Bot. Mag. t.* 2979.

ORD. XVIII. BORAGINEÆ. *Juss.*

1. Lithospermum *denticulatum ;* caulibus erectis, foliis nervosis subglabris acutis margine denticulato-scabris, radicalibus ovatis caulinis oblongis, laciniis calycis margine denticulatis. *Lehm. Asperif. p.* 294.—Pulmonaria denticulata. *Cham. in Linnæa, v.* 4. *p.* 448.—Pulmonaria Sibirica. *Pursh,* (ex *Lehm.*)

2. Lithospermum *maritimum. Lehm.*—Pulmonaria. *Linn.—Engl. Bot. t.* 368. *Cham. in Linnæa, v.* 4. *p.* 447.

ORD. XIX. PRIMULACEÆ. *Juss.*

1. Trientalis *Europæa. Linn.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 224. *Engl. Bot. t.* 15.

ORD. XX. POLYGONEÆ. *Juss.*

1. Polygonum *viviparum. Linn.—Cham. et Schlecht. in Linnæa, v.* 3. *p.* 38. *Engl. Bot. t.* 669.

The specimens of this are a foot and more high, with leaves far larger than in the Europæan state of the plant.

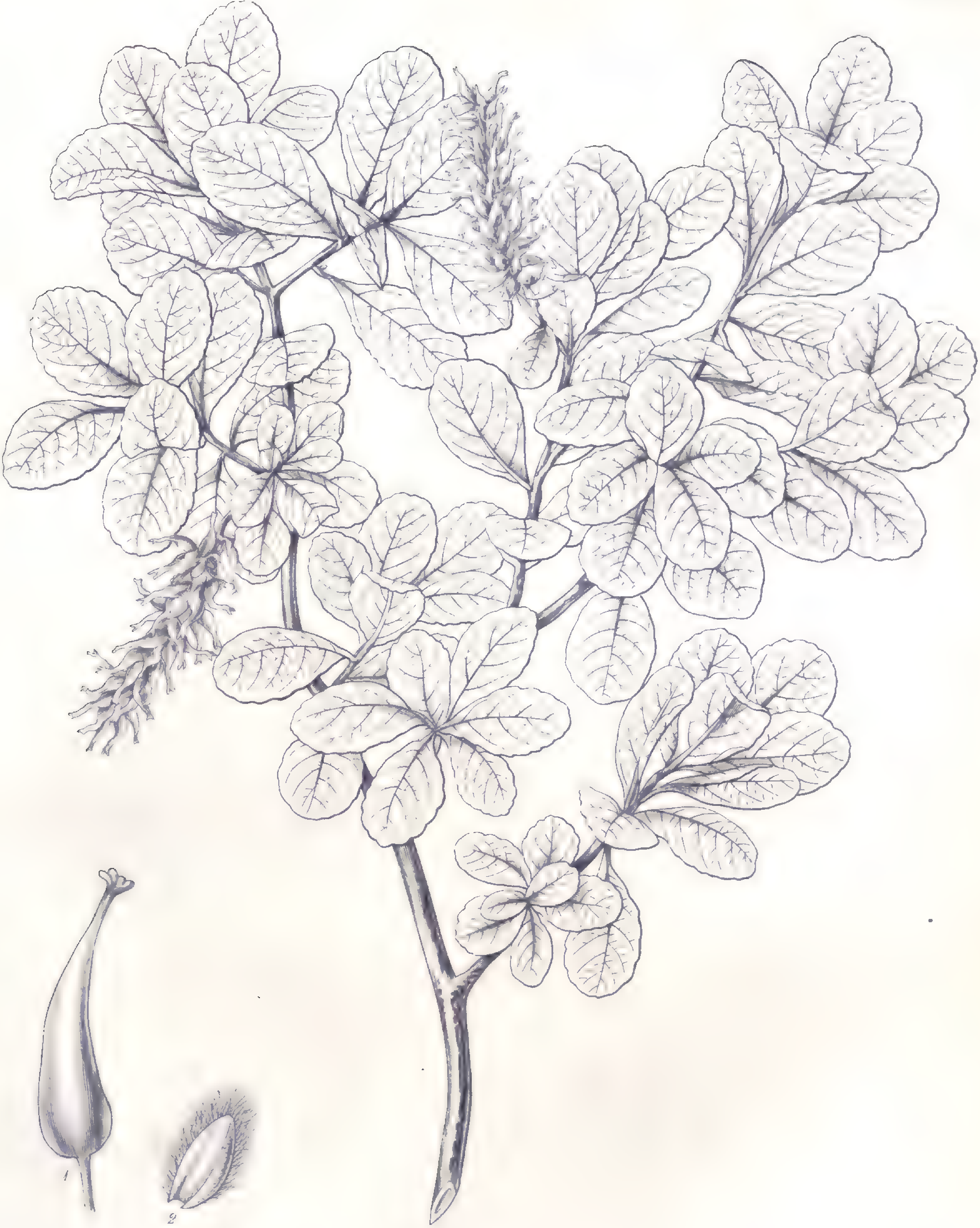
ORD. XXI. EMPETREÆ. *Nutt.*

1. Empetrum *nigrum. Linn.*

ORD. XXII. AMENTACEÆ. *Juss.*

1. Myrica *Gale. Linn.*

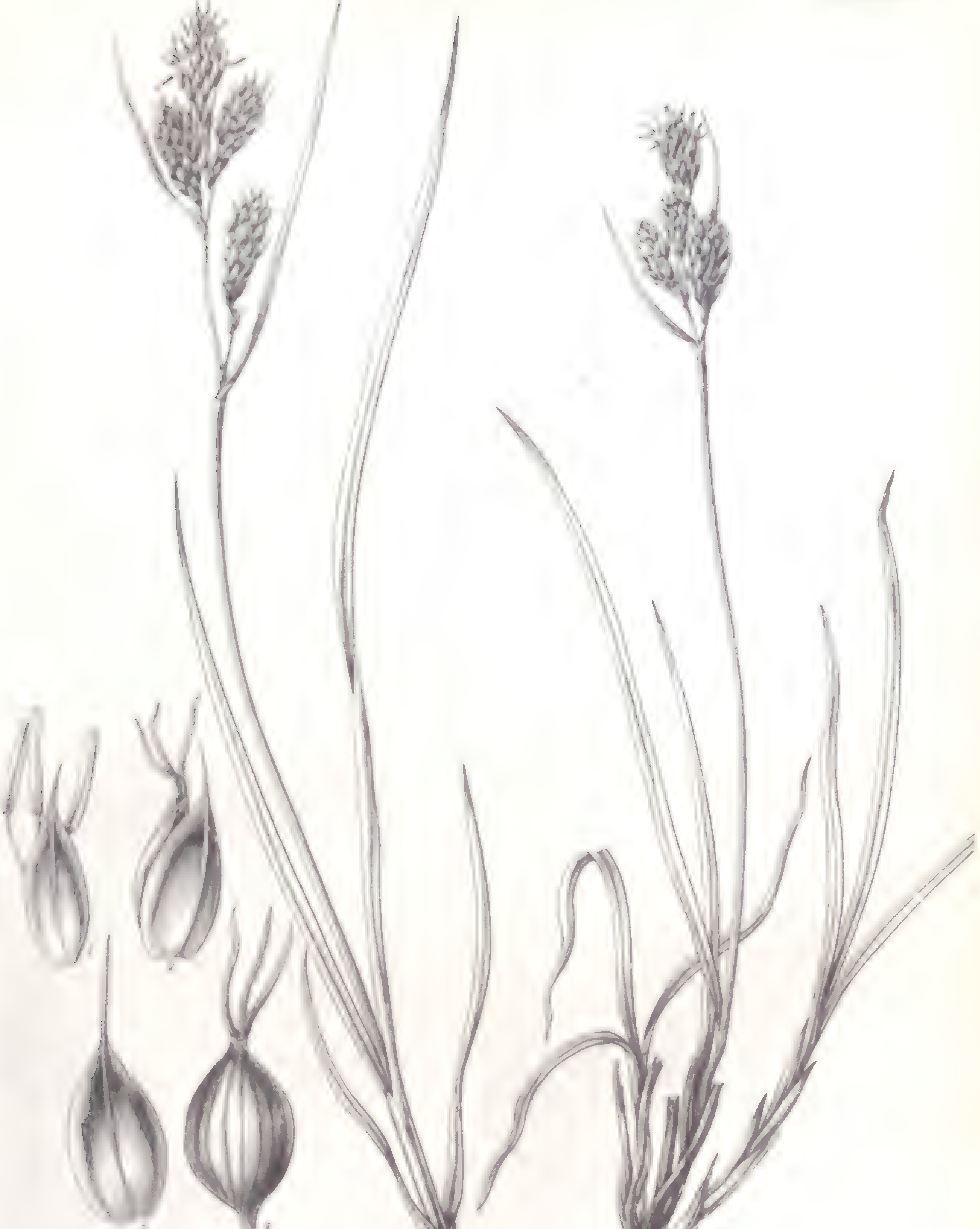
TAB. XXVI.



Salix rhamnifolia.

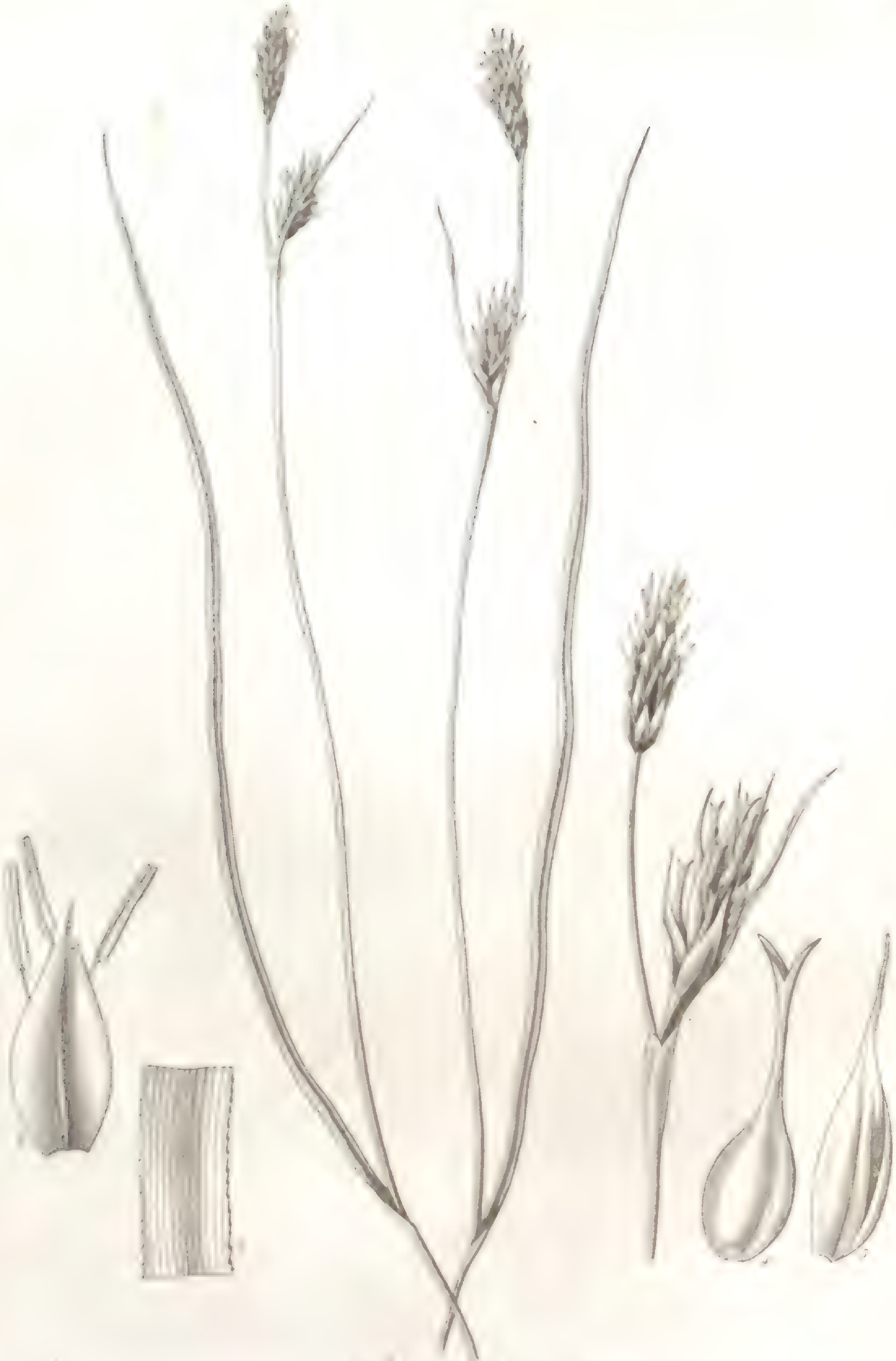
W. J. H. del^t. Swan Sc.

TAB. XXVII.



Carex Gmelini

W J H delt



Carex biplicata

1. Salix *rhamnifolia ;* ramis glaberrimis, foliis obovatis subintegerrimis rigidis in petiolum perbrevem gracillimum attenuatis glabris supra nitidis quasi vernicosis subtus glaucis, amentis laxis, squamis brevibus vix pedicello longioribus lanatis, germinibus lanceolato-subulatis glabris obtusis, stylo brevi tenui, stigmatibus brevibus patentibus bipartitis. (Tab. XXVI.)—*Pall. Fl. Ross. P. II. p.* 84? *Gmel. Fl. Sib. v.* 1. *p.* 159. *t.* 35. *f.* 1. *A.?*

The figure of Gmelin, above quoted, sufficiently accords in foliage with our plant; but his description scarcely suffices to enable us to say that the two are identical, and no other author appears acquainted with it: the stems and branches are erect, glabrous, dark brown. The leaves are about an inch long, truly obovate and remarkably attenuated at the base into a short petiole, scarcely at all toothed at the margin, mostly quite entire, and very glossy above, reticulated with prominent veins, opaque and glaucous beneath. *Catkins* longer than the leaves, peduncled, with lax, patent germens, whose scales are woolly, not longer than the pedicels. *Style* short, and, as it were, set upon the obtuse germen, which does not gradually taper into it. In many respects, the *Salix pumila, &c.* of Gmel. Fl. Sib. p. 160. t. 35. f. 2, agrees with this, especially in what he says of the catkins, and the glossiness and reticulation of the leaves.

Tab. XXVI. *Fig.* 1, A scale; *fig.* 2, Germen:—*magnified.*

2. Salix *Forsteriana? Sm.—Engl. Bot. t.* 2344.

The scales and germens are more silky than in our British *S. Forsteriana*, otherwise the two plants seem to correspond.

3. Salix *cinerea. Linn.—Engl. Bot. t.* 1897.

1. Populus *balsamifera. Linn.—Pall. Fl. Ross. P. I. p.* 67. *t.* 41.

1. Alnus *incana. Willd.*—Betula incana. *Linn.—Pall. Fl. Ross. P. I. p.* 64. *Gmel. Fl. Sib. v.* 1. *p.* 171.

In our specimens, the foliage is quite glabrous: but they are assuredly the true plant of Pallas.

Ord. XXIII. CONIFERÆ. *Juss.*

1. Pinus *Cembra. Linn.—Pall. Fl. Ross. P. I. p.* 3. *Gmel. Fl. Sib. v.* 1. *p.* 179. *t.* 39.

Ord. XXIV. ORCHIDEÆ. *Juss.*

1. Orchis *latifolia. Linn?* var. Beeringiana. *Cham. in Linnæa, v.* 3. *p.* 26.

This is probably, as Chamisso suspects, (who also found it in Kamtschatka,) a species distinct from the *O. latifolia* of Linnæus. The petals are remarkably acuminated, and the habit is considerably different.

Ord. XXV. IRIDEÆ. *Juss.*

1. Iris *Sibirica. Linn.—Bot. Mag. t.* 50, *et t.* 1601. (γ.)

Ord. XXVI. SMILACINEÆ. *Br.*

1. Trillium *obovatum ;* pedunculo erecto, petalis obovatis obtusiusculis planis patentibus calyce vix longioribus et latioribus, foliis ovato-rhombeis acuminatis arcte sessilibus. *Pursh, Fl. Am. v.* 1. *p.* 245. *Reichenb. Hort. Bot. p.* 21. *t.* 29.

1. Smilacina *bifolia. Schultes.*—Convallaria bifolia. *Linn.*—Maianthemum bifolium. *DC. Spr.—Gmel. Fl. Sib. v.* 1. *p.* 36.

S. Canadensis appears in no respect distinct.

1. Streptopus *amplexifolius. De Cand.—Redout. Lil. t.* 259.—Uvularia amplexifolia. *Linn.*—Streptopus distortus. *Bess.*

ORD. XXVII. ASPHODELEÆ. *Juss.*

1. Allium *Sibiricum. Linn. Mant.—Schult. Syst. Veget. v.* 7. *p.* 1027. *Gmel. Fl. Sib. v.* 1. *p.* 59. *t.* 15. *f.* 1.—A. Schænoprasum, β. *Linn. Sp. Pl.*

2. Allium *Victorialis. Linn.—Bot. Mag. t.* 1222. *Gmel. Fl. Sib. v.* 1. *p.* 49.

ORD. XXVIII. LILIACEÆ. *Juss.*

1. Lilium *Kamtschatcense;* foliis verticillatis 3–4 supremis oppositis alternisque ovato-lanceolatis obtusiusculis nervosis, floribus subsolitariis erectiusculis campanulatis, petalis obovato-lanceolatis sessilibus. *Linn. Amœn. Acad. v.* 2. *p.* 348. *Lamb. in Linn. Trans. v.* 10. *p.* 265. *t.* 12.

ORD. XXIX. MELANTHACEÆ. *Br.*

1. Veratrum *nigrum. Linn.—Bot. Mag. t.* 963. *Gmel. Fl. Sib. v.* 1. *p.* 76.

ORD. XXX. JUNCEÆ. *Juss.*

1. Luzula *campestris. Desv.*—Juncus campestris. *Linn.*

ORD. XXXI. CYPERACEÆ. *Juss.*

1. Carex *curta. Linn.*

2. Carex *Gmelini;* spicis (4) pedunculatis approximatis oblongis terminali androgyna, squamis ovatis longe cuspidatis, capsulis ellipticis compressis striatis glaberrimis stipitatis, rostro perbrevi integro, bracteis foliaceis non vaginantibus culmoque triquetro superne ad angulos foliis ad apices marginibus scabris, stigmatibus 3. (TAB. XXVII.)—Carex. *n.* 77. *Gmel. Fl. Sib. v.* 1. *p.* 139. *t.* 30. *f.* 1.

Culm a foot high, triquetrous, rough at the angles above, leafy below. *Leaves* acuminate, linear, as long as the culm, or nearly so, rough at the margin above. *Bracteæ* leafy, amplectant at the base, not at all sheathing, the margin rough. *Spikes* generally 4, oblong or subclavate, all more or less stalked, especially the lower one, erect, approximate. *Scales* closely imbricated, large, dark brown, rather glossy, nerve scarcely paler, rough at the back, and running out into a long scabrous, rigid point, about as long as the capsule. *Capsule* oval, or broadly elliptical, compressed, with longitudinal striæ, upon a conspicuous stalk, the mouth forming a short entire beak. *Stigmas* 3. The male flowers occupy the lower part of the terminal spike, and some few of them are mixed with the upper.—The species is allied to *C. atrata* and *C. Buxbaumii,* but is truly distinct from both. We conceive the figure of Gmelin, above referred to, to be decidedly intended for this plant; though no author appears to have noticed it.

TAB. XXVII. Carex Gmelini. *Fig.* 1, Male flower; *fig.* 2, Female do.; *fig.* 3, Scale, from a female flower; *fig.* 4, Fruit:—*magnified.*

3. Carex *bispicata;* spica *fœm.* solitaria pedunculata erecta ovata pauciflora laxa, squamis amplis ovatis longe acuminatis capsula ovata longe rostrata bifida sublongioribus, *masc.* solitaria longe pedunculata cylindracea, squamis arcte imbricatis ovalibus cuspidatis, caule aphyllo, bractea foliacea vaginata spicam fœmineam excedente, stigmatibus 3. (TAB. XXVIII.)

Of this, the leaves are slender, entirely radical, almost smooth, even at the margins, as is the slender, rounded, or obtusely angular stem. The male spike is terminal, on a long peduncle, which arises from the same sheath as the female spike. Each is constantly solitary. Bracteæ of the female spike reddish-brown, with a broad pale-green nerve; those of the male all red-brown.

Tab. XXVIII. Carex bispicata. *Fig.* 1, Extremity of the stem; *fig.* 2, Male flower; *fig.* 3, Scale of a female flower; *fig.* 4, Fruit; *fig.* 5, Section of a leaf:—*magnified.*

4. Carex *frigida. All.—Willd. Sp. Pl. v.* 4. *p.* 275.

Two other *Carices* exist in the Collection, but their fructification is not sufficiently advanced to enable us to determine them.

Ord. XXXII. GRAMINEÆ. *Juss.*

1. Trisetum *subspicatum. Beauv.*—T. airioides. *Roem. et Schultes.*—Aira subspicata. *Linn.*

1. Hierochloe *borealis. Roem. et Schultes.*—Holcus borealis. *Schrad.*

1. Poa *pratensis. Linn.*

2. Poa *nemoralis. Linn.*

3. Poa *annua. Linn.*

1. Bromus *purgans. Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 3. *Willd. Sp. Pl. v.* 1. *p.* 431?

This exactly agrees with the *B. purgans* of Dr. Richardson, which, however, has the leaves hairy, as well as the florets and sheaths. In regard to the degree of hairiness, this species is probably liable to much variation; and the *B. pubescens* of Muhl., the *B. Canadensis* of Mich., and the *B. ciliatus* of Linn., may perhaps be only different states of one and the same species.

1. Elymus *arenarius. Linn.*

Ord. XXXIII. EQUISETACEÆ. *Willd.*

1. Equisetum *arvense. Linn.—Engl. Bot. t.* 2020.

Ord. XXXIV. POLYPODIACEÆ.

1. Cistopteris *fragilis. Bernh.*—Aspidium fragile. *Sw.*—Cyathea. *Engl. Bot. t.* 1587.

Ord. XXXV. MUSCI. *Linn.*

1. Sphagnum *squarrosum. Web. et Mohr.—Engl. Bot. t.* 1498.

1. Polytrichum *commune. Linn.—Engl. Bot. t.* 1197.

2. Polytrichum *alpinum. Linn.—Engl. Bot. t.* 1905.

3. Polytrichum *contortum? Menz.*

This is without fruit; but is remarkable for the narrow spinuloso-dentate contorted leaves, with a very broad sheathing base.

1. Dicranum *scoparium. Linn.—et* β. fuscescens. *Hook. et Taylor, Musc. Brit. ed.* 2. *p.* 101.—*Engl. Bot. t.* 354.—D. fuscescens. *Turn.*

1. Funaria *hygrometrica. Hedw.—Engl. Bot. t.* 342.

1. Bartramia *gracilis. Flörke.—Engl. Bot. t.* 1826.
1. Bryum *palustre. Sw.—Engl. Bot. t.* 391.
2. Bryum *cæspititium. Linn.—Engl. Bot. t.* 1904.
3. Bryum *nutans. Schreb.—Engl. Bot. t.* 1240.
4. Bryum *punctatum. Schreb.—Engl. Bot. t.* 1183.
5. Bryum *rostratum. Schrad.—Engl. Bot. t.* 1475.
1. Hypnum *denticulatum. Linn.—Engl. Bot. t.* 1260.
2. Hypnum *dendroides. Linn.—Engl. Bot. t.* 1565.
3. Hypnum *cuspidatum. Linn.—Engl. Bot. t.* 1425.

4. Hypnum *laricinum;* caulibus suberectis simpliciter pinnatis, ramis longis gracilibus decurvis, foliis remote imbricatis erectis (siccitate laxis) cordato-ovatis basi valde contractis acuminatis serrulatis dorso papillosis profunde carinatis, nervo medium versus evanescente, margine revoluto. *Wils. MSS.*—H. abietinum. *Sw. in Herb. nostr.* (non *Hedw.*)

This Moss, which has perhaps been confounded by Botanists with *H. abietinum,* is truly distinct from it, and has lately been found bearing fruit, in Cheshire, by Mr. Wilson, whose character we here adopt.

5. Hypnum *populeum. Hedw.*
6. Hypnum *uncinatum. Hedw.—Engl. Bot. t.* 1600.

Ord. XXXVI. HEPATICÆ. *Linn.*

1. Marchantia *polymorpha. Linn.—Engl. Bot. t.* 210.

Ord. XXXVII. LICHENES. *Ach.*

1. Peltidea *aphthosa. Ach.—Engl. Bot. t.* 1119.
1. Sticta *scrobiculata. Ach.—Engl. Bot. t.* 497.
1. Stereocaulon *paschale. Ach.—Engl. Bot. t.* 282.
1. Cenomyce *rangiferina. Ach.—Engl. Bot. t.* 173.
2. Cenomyce *deformis. Ach.—Engl. Bot. t.* 1394.
3. Cenomyce *pyxidata. Ach.—Engl. Bot. t.* 1393.

KOTZEBUE'S SOUND.

[Including the Plants gathered on the American Coast of Behring's Strait, from lat. 67° to 71°.]

The same Plants will be found more fully noticed in the "Flora Boreali-Americana" of Dr. Hooker.

Ord. I. RANUNCULACEÆ. *Juss.*

1. Thalictrum *alpinum. Linn.—De Cand. Prodr. v.* 1. *p.* 12. *Engl. Bot. t.* 262.
1. Anemone *alpina. Linn.—Bot. Mag. t.* 2007. *Hook. Fl. Bor. Am. v.* 1. *p.* 5

2. Anemone *parviflora. Mich.—De Cand. Prodr. v.* 1. *p.* 19. *Hook. Fl. Bor. Am. v.* 1. *p.* 5.—A. cuneifolia. *Juss. in Ann. du Mus. v.* 3. *t.* 21. *f.* 3.

3. Anemone *narcissiflora. Linn.—Bot. Mag. t.* 1120. *De Cand. Prodr. v.* 1. *p.* 23. *Hook. Fl. Bor. Am. v.* 1. *p.* 8.—β. uniflora.

The single-flowered variety alone, as mentioned in the Fl. Bor. Am., exists in the Collection. It is smaller than the American state of the plant, and clothed with dense silky hairs.

1. Ranunculus *Purshii.—Rich. in Frankl. Journ.—Hook. Fl. Bor. Am. v.* 1. *p.* 15. *t.* 7. —R. multifidus. *Pursh.*

2. Ranunculus *affinis. Br.—Hook. Fl. Bor. Am. v.* 1. *p.* 12. *t.* 6. *A.*

3. Ranunculus *Lapponicus. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 16.

4. Ranunculus *pygmæus. Wahl.—Hook. Fl. Bor. Am. v.* 1. *p.* 16.

5. Ranunculus *nivalis. Linn. Br.—Hook. Fl. Bor. Am. v.* 1. *p.* 17.

1. Delphinium *Menziesii.—De Cand. Prodr. v.* 1. *p.* 54. *Hook. Fl. Bor. Am. v.* 1. *p.* 25.

1. Aconitum *Napellus;* var. *delphinifolium. Hook. Fl. Bor. Am. v.* 1. *p.* 25.—A. delphinifolium, α. Americanum. *De Cand. Prodr. v.* 1. *p.* 62.

ORD. II. PAPAVERACEÆ. *Juss.*

1. Papaver *nudicaule. Linn.—De Cand. Prodr. v.* 1. *p.* 117. *Hook. Fl. Bor. Am. v.* 1. *p.* 34.

ORD. III. FUMARIACEÆ. *De Cand.*

1. Corydalis *pauciflora. Pers.—De Cand. Prodr. v.* 1. *p.* 127. *Hook. Fl. Bor. Am. v.* 1. *p.* 37.

ORD. IV. CRUCIFERÆ. *Juss.*

1. Cardamine *purpurea;* glabriuscula, foliis radicalibus caulinoque trifoliolatis quinatisve, foliolis lateralibus ovali-rotundatis acutis terminali cordato-rotundato rotundato, bractea ad basin pedicelli inferioris cuneato-tridentato sessili, petalis (læte purpureis) reticulatim venosis.—*Cham. et Schlecht. in Linnæa, v.* 1. *p.* 20. *Hook. Fl. Bor. Am. v.* 1. *p.* 44.

2. Cardamine *pratensis. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 45.

1. Parrya *macrocarpa. Br.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 18. *Hook. Fl. Bor. Am. v.* 1. *p.* 47. *t.* 15.

1. Draba *alpina. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 50.

2. Draba *hirta. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 52.

3. Draba *stellata. Jacq.—Hook. Fl. Bor. Am. v.* 1. *p.* 53.

1. Cochlearia *oblongifolia.—De Cand. Prodr. v.* 1. *p.* 363. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 26. *Hook. Fl. Bor. Am. v.* 1. *p.* 56.

2. Cochlearia *anglica. Linn.—Engl. Bot. t.* 552. *Hook. Fl. Bor. Am. v.* 1. *p.* 57.

1. Hutchinsia *calycina. Desv.—Hook. Fl. Bor. Am. v.* 1. *p.* 58. *t.* 17. *f. B.*—β. foliis inferioribus omnino integris. *Hook. Fl. Bor. Am. v.* 1. *p.* 58.

1. Hesperis *pygmæa. Hook. Fl. Bor. Am. v.* 1. *p.* 60. *t.* 19.—Cheiranthus pygmæus. *Adams in De Cand. Prodr. v.* 1. *p.* 137.

1. Sisymbrium *sophioides. Fischer.—Hook. Fl. Bor. Am. v.* 1. *p.* 61. *t.* 20.

ORD. V. DROSERACEÆ. *De Cand.*

1. Parnassia *palustris. Linn.*

2. Parnassia *Kotzebuei. Cham. et Schlecht. in Linnæa, v.* 1. *p.* 549. *Hook. Fl. Bor. Am. v.* 1. *p.* 83. *t.* 28.

ORD. VI. VIOLARIEÆ. *De Cand.*

1. Viola *blanda? Willd. Hort. Berol. t.* 24. *Hook. Fl. Bor. Am. v.* 1. *p.* 76.

ORD. VII. CARYOPHYLLEÆ. *De Cand.*

1. Dianthus *repens. Willd.—Hook. Fl. Bor. Am. v.* 1. *p.* 87.

1. Silene *acaulis. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 87.

1. Lychnis *apetala. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 91.

1. Stellaria *longifolia. Muhl.—Hook. Fl. Bor. Am. v.* 1. *p.* 94.

2. Stellaria *Edwardsii. Br.—Hook. Fl. Bor. Am. v.* 1. *p.* 96. *t.* 31.

3. Stellaria *ovalifolia. Hook. Fl. Bor. Am. v.* 1. *p.* 97.

1. Arenaria *hirta. De Cand.—Hook. Fl. Bor. Am. v.* 1. *p.* 99. *Wormsk. in Fl. Dan. t.* 1646.

2. Arenaria *arctica. Stev. in De Cand. Prodr. v.* 1. *p.* 404. *Hook. Fl. Bor. Am. v.* 1. *p.* 100. *t.* 34. *A.*

3. Arenaria *peploides. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 102.

1. Cerastium *alpinum. Linn.*

ORD. VIII. LEGUMINOSÆ. *Juss.*

1. Phaca *frigida. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 140.

2. Phaca *astragalina. De Cand.—Hook. Fl. Bor. Am. v.* 2. *p.* 145.—Astragalus alpinus. *Linn.*

1. Oxytropis *borealis. De Cand.—Hook. Fl. Bor. Am. v.* 1. *p.* 145.—β. bracteis foliosis, foliolis angustioribus.

Both states of the plant are in this Collection. The var. β. may probably prove to be a distinct species.

2. Oxytropis *arctica. Br.—Hook. Fl. Bor. Am. v.* 1. *p.* 146.

1. Hedysarum *boreale. Nutt.—Hook. Fl. Bor. Am. v.* 1. *p.* 155.

1. Lathyrus *pisiformis. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 158.—Pisum maritimum. *Linn. et alior.*

1. Lupinus *perennis. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 163.

Ord. IX. ROSACEÆ. *Juss.*

1. Spiræa *chamædrifolia. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 171.—var. β. foliis ellipticis glabris v. subpubescentibus.

1. Dryas *octopetala. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 174.

2. Dryas *integrifolia. Pursh.—Vahl.—Hook. Fl. Bor. Am. v.* 1. *p.* 174.

1. Sieversia *glacialis. Br.—Hook. Fl. Bor. Am. v.* 1. *p.* 177.

1. Rubus *acaulis. Mich.—Hook. Fl. Bor. Am. v.* 1. *p.* 182.—R. pistillatus. *Sm. Ex. Bot. t.* 86.—R. propinquus. *Rich.*

2. Rubus *Chamæmorus. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 183.

1. Potentilla *fruticosa. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 186.

2. Potentilla *Pennsylvanica. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 187.

3. Potentilla *anserina. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 189.

4. Potentilla *nana. Lehm.—Hook. Fl. Bor. Am. v.* 1. *p.* 194.

5. Potentilla *villosa. Pallas.—Lehm. Pot. t.* 16. *Hook. Fl. Bor. Am. v.* 1. *p.* 194.

6. Potentilla *biflora. Lehm. Pot. p.* 192. *t.* 20. *Hook. Fl. Bor. Am. v.* 1. *p.* 195.

Ord. X. ONAGRARIÆ. *Juss.*

1. Epilobium *angustifolium. Linn.—Cham. et Schlecht. in Linnæa, v.* 2. *p.* 552.

2. Epilobium *latifolium. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 205.

Ord. XI. HALORAGEÆ. *Br.*

1. Hippuris *maritima. "Hellen. Diss. cum Ic."—Hook. Fl. Bor. Am. v.* 1. *p.* 218.

Ord. XII. PORTULACEÆ. *Juss.*

1. Claytonia *Virginica. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 224.

Of this, one of the specimens in the Collection has the leaves remarkably broad and sheathing at the base; but it has the appearance rather of a monstrosity than of a variety, or distinct species.

2. Claytonia *lanceolata. Pursh, Fl. Am. v.* 1. *p.* 175. *t.* 3.—*Hook. Fl. Bor. Am. v.* 1. *p.* 224.

Ord. XIII. CRASSULACEÆ. *De Cand.*

1. Sedum *Rhodiola. De Cand.*—Rhodiola rosea. *Linn.*

Ord. XIV. SAXIFRAGEÆ. *Juss.*

1. Saxifraga *cæspitosa. Linn.—De Cand. Prodr. v.* 4. *p.* 27.—var. uniflora.—S. uniflora. *Br. in Pl. of Melv. Isl.*—S. sileniflora. *Cham. in Herb. nostr.*

2. Saxifraga *cernua. Linn.—Engl. Bot. t.* 664. *De Cand. Prodr. v.* 4. *p.* 89.—β. multiflora.

There are, in the Herbarium, some remarkable states of this plant, 6–8 inches high, branched upwards, and each branch bearing a large flower, no bulbs. This is perhaps the most perfect form: and the very opposite to that which grows in Scotland, where almost all the flowers are turned into sessile bulbs. Perhaps the *S. Stephaniana* Sternb. Saxifr. Suppl. p. 8. t. 6. f. 2, may be correctly referred to our variety β. *S. Sibirica* also seems too nearly allied to it.

3. Saxifraga *rivularis. Linn.*

4. Saxifraga *Dahurica. Sternb. Saxifr. p.* 13. et var.—var. β. foliis angustioribus glanduloso-pubescentibus, panicula decomposita.

This species seems to vary considerably in the breadth and pubescence of its leaves. Our var. has the pubescence and panicle of the β. *latifolia* of Sternberg (Saxifr. Suppl. t. 5,) but the leaves are narrower.

5. Saxifraga *hieracifolia. Waldst. et Kit. v.* 1. *p.* 17. *t.* 18.

6. Saxifraga *Nelsoniana;* caule glanduloso superne pubescente, foliis longe petiolatis orbiculari-cordatis crenato-lobatis venosis margine venisque subtus glandulosis, glandulis pedicellatis, racemis compositis subspiciformibus, bracteis lanceolatis pedicellisque glandulosis, calycis segmentis triangulari-ovatis acutis. (TAB. XXIX.)—*Don in Linn. Trans. v.* 13. *p.* 354.

Caulis spithamæus ad pedalem, erectus, robustus, simplex, glandulis pedicellatis asper, inferne glaber superne pubescens. *Folia* ampla, longe petiolata, orbiculari-cordata, coriaceo-membranacea, glabra, reticulatim venosa, crenato-lobata, dentibus acutis, margine nervisque subtus petiolisque glandulis pedicellatis instructis. *Petioli* ad basin membranaceo-vaginantes. *Racemus* digitalis ad spithamæum, compositus, densus, subspiciformis: rachis pedicellique pubescentes et glandulosi. *Bracteæ* lanceolatæ, acuminatæ, floris longitudine, margine glanduloso. *Flores* inter maximos hujusce generis. *Calyx* glandulosus, laciniis ovatis, acutis seu acuminatis, erecto-patentibus. *Petala* patentia, obovata, subunguiculata, hirsuta. *Stamina* petalis breviora. *Ovarium* seminiferum. *Styli* 2, erecto-patentes.

It is very strange if this fine *Saxifrage* should have escaped the notice of Chamisso: yet we do not find it described by Sternberg in the Supplement to his Monographia Saxifrag., where the other species of Chamisso are detailed. We possess the same plant from the Rocky Mountains, gathered by Mr. Drummond.

TAB. XXIX. Saxifraga Nelsoniana. *Fig.* 1, 1, Flowers.

7. Saxifraga *punctata. Linn.—supra, p.* 114.

8. Saxifraga *Hirculus. Linn.—Engl. Bot. t.* 1009.

9. Saxifraga *flagellaris. Willd. in Sternb. Saxifr. p.* 25. *t.* 6.—S. setigera. *Pursh, Fl. Am. v.* 1. *p.* 312.

10. Saxifraga *bronchialis. Linn.—supra, p.* 114.

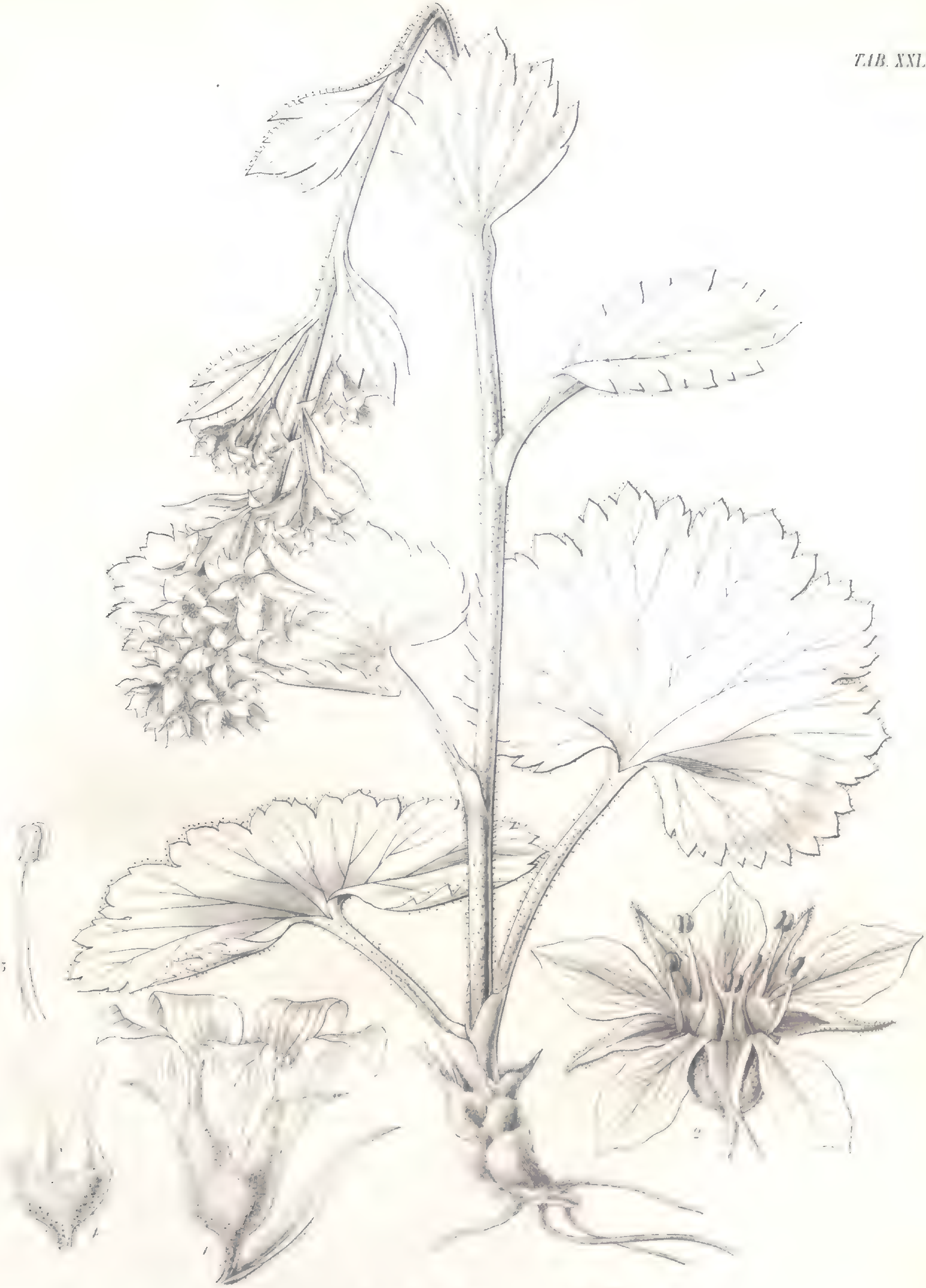
11. Saxifraga *tricuspidata. Retz.—Fl. Dan. t.* 976.

1. Chrysosplenium *alternifolium. Linn.*

ORD. XV. UMBELLIFERÆ. *Juss.*

1. Bupleurum *angulosum. Linn.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 283.

1. Conioselinum *Fischeri.* "*Wimm. et Grab.*"—*De Cand. Prodr. v.* 4. *p.* 164.—Ligusticum Gmelini. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 394. *Gmel. Fl. Sib. v.* 1. *t.* 44.



Saxifraga Nelsoniana

Swan Sc

1. Ligusticum *Scoticum. Linn.—supra, p.* 115.

1. Laserpitium *hirsutum. Linn.—De Cand. Prodr. v.* 4. *p.* 205.

ORD. XVI. CORNEÆ. *De Cand.*

1. Cornus *Suecica. Linn.—supra, p.* 115.

ORD. XVII. CAPRIFOLIACEÆ. *Juss.*

1. Linnæa *borealis. Linn.—Engl. Bot. t.* 433.

ORD. XVIII. RUBIACEÆ. *Juss.*

1. Galium *rubioides. Linn.—supra, p.* 115.

ORD. XIX. VALERIANEÆ. *Juss.*

1. Valeriana *capitata.* "*Pall. in Willd. Herb.*" *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 130.

ORD. XX. COMPOSITÆ. *Juss.*

1. Leontodon *Taraxacum. Linn.*

2. Leontodon *palustre.*

1. Artemisia *borealis. Pall.—supra, p.* 115.—*Lessing, in Linnæa, v.* 6. *p.* 211.—*β. lanuginosa;* racemis dense lanuginosis, floribus duplo majoribus, foliis superioribus latioribus.

Besides the true *A. borealis,* we have the variety just noticed, which has a stouter habit, much broader cauline leaves, and a dense woolly raceme (peduncle, pedicels, and involucres); the tomentum of a yellowish hue, and flowers more than twice as large—as large indeed as those of *A. arctica,* from which it differs remarkably in its foliage and tomentum. It will probably, on a future examination and comparison with other species, prove to be distinct.

2. Artemisia *arctica;* erecta glabra vel hirsuta, foliis bipinnatifidis laciniis (rachique) linearibus acutis ultimis brevibus, superioribus pinnatifidis, racemo elongato, pedicellis elongatis bractea lineari integra longioribus, floribus majusculis nutantibus secundis, receptaculo nudo.—*Lessing, in Linnæa, v.* 6. *p.* 213.

This is assuredly subject to much variation, and is nearly allied to *A. Norvegica,* which has the flowers of the present species, with the leaves of *A. borealis.* Of this, our tallest specimens (one foot high) are glabrous, with the segments of the leaves very sharply acuminated; the pedicels an inch long. A second state of the plant is very downy, almost woolly: it has stouter stems, less divided leaves, and pedicels two inches long. A third is only four or five inches tall, with the pedicels so long, especially the lower ones, (3–4 inches), that they form a corymbus.

3. Artemisia *glomerata;* densissime cæspitosa ubique sericeo-villosissima, ramis brevibus arcte foliatis, foliis brevibus 3–5-fido-palmatis laciniis lanceolatis brevi-acuminatis inferioribus sessilibus caulinis late petiolatis, floribus capitatis, receptaculo nudo.—*Lessing, in Linnæa, v.* 6. *p.* 212.

We can hardly think but that this is the *A. glomerata* of Lessing, although the leaves of his plant are

described as being more compound. It forms dense tufts of many inches in diameter, the barren tufts looking more like some silky *Androsace* than anything of this Natural Order.

4. Artemisia *Tilesii. Ledeb.—supra, p.* 115.

1. Gnaphalium *alpinum. Linn.*

1. Chrysanthemum *arcticum. Linn.—supra, p.* 116.

2. Chrysanthemum *integrifolium;* pilosum, foliis linearibus integerrimis, caule subaphyllo unifloro. *Rich. in Frankl.* 1*st Journ. ed.* 1. *App. p.* 749. *Hook. in Parry's* 2*d Voy. App. p.* 398.

1. Pyrethrum *inodorum. Sm.—var.* nana.—P. Caucasicum. *Willd. Sp. Pl. v.* 3. *p.* 2156. (*fide Lessing in Linnæa, v.* 6. *p.* 167.)—Chrysanthemum grandiflorum. *Hook. in Parry's* 2*d Voy. App. p.* 398.

1. Arnica *angustifolia. Vahl, in Fl. Dan. t.* 1524.—A. montana. β. *Linn.*—A. alpina. *Wahl. Fl. Dan. v.* 2. *p.* 530. *Lessing, in Linnæa, v.* 6. *p.* 235.

This, in a more luxuriant state, bears 2–4 flowers, and it appears then to become the *A. Chamissonis* of Lessing *l. c.*, who describes two other allied species from Unalaschka, differing from these by the corolla being quite glabrous.

2. Arnica *maritima. Linn.—Pursh, Fl. Am. v.* 2. *p.* 527.—A. Doronicum? *Pursh,* (*non alior.*)—Senecio Pseudo-Arnica. *Lessing, in Linnæa, v.* 6. *p.* 240.

This has entirely the habit of *Arnica*, yet agrees with the character of *Senecio* as defined by Lessing in the Linnæa, v. 6. p. 239.

1. Cineraria *frigida;* deciduo-tomentosa, foliis ovatis obsolete dentatis, radicalibus petiolatis, caule ascendente unifloro. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30.—Senecio frigidus. *Lessing, in Linnæa, v.* 6. *p.* 239.

2. Cineraria *lyrata;* uniflora, foliis lyratis lobo terminali subrotundo acute 5–7-angulato. *Reichenb.—Ledeb. in Mém. de l'Acad. Petersb. v.* 5. *p.* 576. *Reichenb. Iconogr. Bot. Cent. II. p.* 1. *t.* 101.

3. Cineraria *integrifolia. Willd.*

4. Cineraria *congesta;* capitulo lanato, foliis lineari-lingulatis undulatis, caule simplicissimo. *Br. in Parry's* 1*st Voy. App. p.* cclxxix.

1 Senecio *Kalmii. Nutt.*—Cineraria Canadensis. *Linn.*

1. Tussilago *corymbosa;* corymbo fœmineo laxo paucifloro, corollulis ligularibus nervosis, masculo congesto, foliis cordatis sinuatis inæqualiter dentatis subtus tomentosis. *Br. in Parry's* 1*st Voy. App. p.* cclxxix.—T. frigida. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30?—Nardosma angulosa. *Cassini.—Lessing, in Linnæa, v.* 6. *p.* 107.

Lessing unites the *T. corymbosa* with the *T. frigida*, and perhaps with justice.

1. Erigeron *alpinum. Linn.*

1. Solidago *Virga-aurea. Linn.*

1. Aster *salsuginosus;* caule uni-paucifloro, foliis lanceolatis acutis subintegerrimis

venosis inferioribus in petiolum longe attenuatis reliquis sessilibus, involucri squamis linearibus acutis pubescentibus subsquarrosis disco vix duplo (radio plus triplo) longioribus. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 32. *Hook. in Bot. Mag. t.* 2942. *Lessing, in Linnæa, v.* 6. *p.* 124.

1. Saussurea *alpina. De Cand.—supra, p.* 116.

ORD. XXI. CAMPANULACEÆ. *Juss.*

1. Campanula *uniflora. Linn.—Cham. et Schlecht. in Linnæa, v.* 4. *p.* 37.

2. Campanula *lasiocarpa;* humilis, caule unifloro nudiusculo, foliis radicalibus confertis lanceolato-obovatis setaceo-denticulatis, petiolis ciliatis, calyce tubo villoso lobis acuminatis denticulatis, corolla infundibuliformi-campanulata lobis calycinis duplo longiore, capsula subcylindracea. *Alph. De Cand.—Cham. et Schlecht. in Linnæa, v.* 6. *p.* 39.—C. algida. *Alph. De Cand. Camp. p.* 338.

ORD. XXII. ERICINEÆ. *Juss.*

1. Azalea *procumbens. Linn.*

1. Arbutus *alpina. Linn.*

1. Andromeda *polifolia. Linn.*

2. Andromeda *tetragona. Linn.*

1. Ledum *palustre. Linn.*

1. Pyrola *rotundifolia. Linn.*

1. Vaccinium *Vitis Idæa. Linn.—supra, p.* 116.

2. Vaccinium *uliginosum. Linn.—supra, p.* 116.

3. Vaccinium *Oxycoccos. Linn.*

ORD. XXIII. GENTIANEÆ. *Juss.*

1. Gentiana *glauca. Pall.—Cham. et Schlecht. v.* 1. *p.* 175.—G. cæspitosa. *Graham in James. Phil. Journ.*

2. Gentiana *Rurickiana;* corollis 4-fidis hypocrateriformibus, fauce nudis calyce plus duplo longioribus, laciniis lanceolatis setaceo-acuminatis, calycis fere usque ad basin divisi laciniis inæqualibus duabus maximis, floribus longe pedunculatis. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 176.

3. Gentiana *glacialis. Vill.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 182.

4. Gentiana *rotata. Willd. Herb.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 187. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 9.

ORD. XXIV. POLEMONIDEÆ. *Juss.*

1. Polemonium *cæruleum. Linn.*

2. Polemonium *Richardsoni;* caule piloso angulato erecto, foliis pinnatis multijugis, pinnis ovato-rotundatis mucronulatis subtus pubescentibus, floribus corymbosis nutantibus, corollæ segmentis obtusis crenulatis, radice subfusiformi longissima. *Graham, in Bot. Mag. t.* 2800.—P. speciosum. *Fischer, MSS. in Herb. nostr.*—P. cæruleum, var. *nana. Hook. Arct. Pl. in Linn. Trans. v.* 14. *p.* 377.

1. Phlox *Sibirica. Linn.*

Ord. XXV. BORAGINEÆ. *Juss.*

1. Myosotis *alpestris. Schmidt.—Engl. Bot. t.* 2559. *Cham. et Schlecht. in Linnæa, v.* 4. *p.* 442.

1. Lithospermum *denticulatum. Lehm.—supra, p.* 116.

One of the specimens in this Collection appears rather to agree with the *Lithospermum (Pulmonaria) pilosum* of Cham. et Schlecht, than with *L. denticulatum:* but although we have specimens of both from these excellent Botanists, we cannot satisfy ourselves of the essential difference between the two plants.

2. Lithospermum *maritimum. Lehm.—supra, p.* 116.

Ord. XXVI. SCROPHULARINEÆ. *Juss.*

1. Gymnandra *Stelleri;* foliis radicalibus oblongis utrinque infra vero magis attenuatis acutis inæqualiter obtuse serratis, staminibus fere longitudine labii superior stylo illo longiore. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 563.

1. Castilleja *pallida. Kunth.—Cham. et Schlecht. in Linnæa, v.* 2. *p.* 580.—C. septentionalis *et* Sibirica. *Lindl.*—Bartsia pallida. *Linn.*

1. Pedicularis *Nelsoni. Brown, in Herb. Banks.—Rich. in Frankl.* 1*st. Journ.* (1823.) *App. p.* 743. *Hook. in Parry's* 2*d Voy. App. p.* 402. *t.* 1.—P. capitata. *Adams ex Stev. in Mém. de la Soc. Imp. Mosc. v.* 6. *p.* 19. *t.* 3. *f.* 2. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 582.—P. verticillata. *Pursh,* (non *Linn.*)

2. Pedicularis *verticillata. Linn. C ham. et Schlecht. in Linnæa, v.* 2. *p.* 582.

3. Pedicularis *euphrasioides. Steph. ex Stev. in Mém. de la Soc. de Mosc. v.* 6. *p.* 42. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 583. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 24. *Gmel. Fl Sib. v.* 3. *p.* 203. *t.* 43.

4. Pedicularis *Langsdorffii. Fisch. ex Stev. l. c. p.* 49. *t.* 9. *f.* 2. (excl. var. *β.*)

5. Pedicularis *lanata. Willd. Herb.—Cham. et Schlecht. in Linnæa, v.* 2. *p.* 583.—P. Langsdorffii. *β. Stev. l. c. p.* 49.

Nearly allied to *P. arctica.* Br., and *P. hirsuta.* Willd.

6. Pedicularis *sudetica. Willd.—Cham. et Schlecht. in Linnæa, v.* 2. *p.* 583. *Stev. l. c. p.* 44. *t.* 15. *f.* 2. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 25.

Ord. XXVII. PRIMULACEÆ. *Juss.*

1. Primula *saxifragifolia. Lehm. Prim. p.* 89. *t.* 9. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 212.

2. Primula *Mistassinica? Lehm. Prim. p.* 63. *t.* 7. *Hook. in Bot. Mag. t.* 2973. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 213.

3. Primula *nivalis. Pall. It. t.* 9. *f.* 2. *Lehm. Prim. p.* 67. *Cham. et Schlecht. v.* 1. *p.* 215.

1. Androsace *septentrionalis. Linn.*

2. Androsace *Chamæjasme. Wulf.—Cham. et Schlecht. in Linnæa, v.* 1. *p.* 217.

1. Dodecatheon *frigidum;* foliis subspathulatis repando-dentatis, umbellis paucifloris, pedunculis divaricatis glandulosis, bracteis subulatis, antheris subsessilibus. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 222.

Ord. XXVIII. PLUMBAGINEÆ. *Juss.*

1. Statice *Armeria. Linn.*

Ord. XXIX. POLYGONEÆ. *Juss.*

1. Polygonum *viviparum. Linn.—supra, p.* 116.

2. Polygonum *alpinum. All.—Cham. et Schlecht. in Linnæa, v.* 3. *p.* 38.

1. Oxyria *reniformis. Hook. Fl. Scot.—Cham. et Schlecht. in Linnæa, v.* 3. *p.* 58.—Rumex digynus. *Linn.*

1. Rumex *Acetosa. Linn.*

2. Rumex *domesticus. Hartm.—Reichenb. Icon. Bot. t.* 345. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 59.—R. aquaticus, β. crispatus. *Wahl. Lapp. p.* 91.

This exactly agrees with Reichenbach's figure, except that the leaves are longer and narrower.

Ord. XXX. CHENOPODEÆ. *Vent.*

1. Atriplex *littoralis. Linn.*

Ord. XXXI. EMPETREÆ. *Nutt.*

1. Empetrum *nigrum. Linn.—supra, p.* 116.

Ord. XXXII. AMENTACEÆ. *Juss.*

1. Alnus *incana. Willd.—supra, p.* 117.

This precisely resembles the Kamtschatkan specimens above-mentioned.

1. Betula *nana. Linn.*

1. Salix *arctica? Br.* (non *Pallas?*)

Of this plant, which we refer to Mr. Brown's *S. arctica*, there are two states in the Collection, both much larger in the foliage and catkins; the one having the leaves very downy and silky beneath, the other glaucous and slightly silky beneath.

2. Salix *Lapponum. Linn.—Sm. in Rees' Cycl.*—S. glauca, var. *Wahl. Lapp. p.* 264.

3. Salix *arenaria. Linn.—Engl. Bot. t.* 1809.

4. Salix *reticulata. Linn.—Engl. Bot. t.* 1908.

5. Salix *retusa. Linn.*

6. Salix *speciosa;* ramis robustis densissime flavo-sericeis, foliis oblongo-lanceolatis acutis vel subacuminatis integerrimis supra glabriusculis subtus petiolisque niveo-tomentosis, stipulis persistentibus lineari-subulatis membranaceis fuscis petiolo longioribus.

Although there is no fructification on the specimen of this plant, yet it is altogether so remarkable in appearance, and so unlike any other *Salix* with which we are acquainted, or can find described, that we venture on giving it a name and character. The branch is about a foot long, strait, and very stout in proportion to its length; covered throughout, but especially towards the extremity, with remarkably dense upright yellow silky hairs. Leaves four inches or more long, an inch or an inch and half broad, moderately firm, quite entire, acute, oblongo-lanceolate, tapering into a densely woolly footstalk, about half an inch long, dilated considerably at the base, where it embraces a densely silky leaf-bud: the upper side of the leaf has only a few scattered lax woolly hairs, beneath it is white and cottony. *Stipules* linear-subulate, longer than the petiole, membranaceous, brown, woolly.

ORD. XXXIII. ORCHIDEÆ. *Juss.*

1. Habenaria *obtusata. Rich. in Frankl. 1st Journ. ed.* 2. *App. p.* 33.—Orchis obtusata. *Pursh.*

1. Corallorhiza *innata. Br.*—Ophyrs Corallorhiza. *Linn.—Engl. Bot. t.* 1547.

ORD. XXXIV. IRIDEÆ. *Juss.*

1. Iris *Sibirica. Linn.—supra, p.* 117.

ORD. XXXV. ASPHODELEÆ. *Juss.*

1. Anthericum *serotinum. Linn.*

1. Allium *Sibiricum. Linn.*

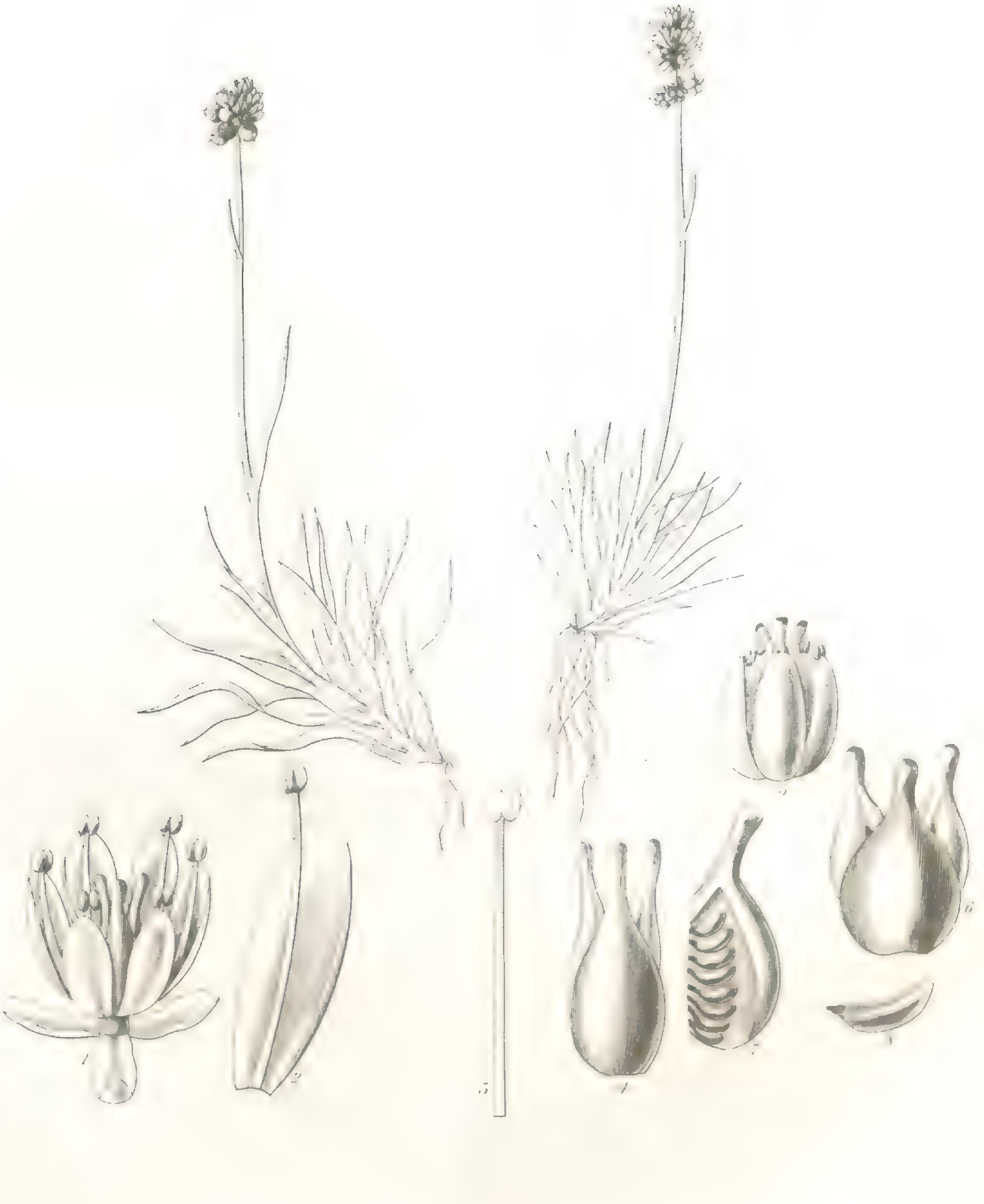
ORD. XXXVI. MELANTHACEÆ. *Br.*

1. Zigadenus *chloranthus;* scapo subnudo, bracteis lanceolatis, sepalis obovatis obtusis. *Rich. in Frankl. 1st Journ. ed.* 2. *App. p.* 12.

1. Tofieldia *coccinea;* spica capitata, floribus fere sessilibus, involucro triphyllo, scapo 1–2 folio. (TAB. XXIX.) *Rich. in Frankl. 1st Journ. ed.* 2. *App. p.* 11. *Schult. Syst. Veget. v.* 7. *p.* 1580.

Radix fibrosa, fibris flexuosis pallide fuscis pubescentibus. *Folia* fere omnia radicalia, equitantia, disticha, numerosa, unciam vel sesquiunciam longa, lineari-acuminata, plana, striata, glabra. *Scapus* 3–4 uncias longus, erectus, flexuosus, siccitate angulatus, plerumque diphyllus; foliis brevibus erectis submembranaceis duplicato-carinatis: uno basin versus, altero prope medium sito. *Flores* spicato-capitati, densi, fere omnino sessiles, involucrati; involucro triphyllo, foliolis ovatis membranaceis acutis. *Perianthii sepala* oblongo-ovata, concava, obtusa, erecto-patentia. *Stamina* sepalis opposita paulo longiora. *Antheræ* rotundatæ. *Pistillum* late ovatum. *Styli* tres erecti. *Capsulæ* ovatæ, basi in unum connatæ, intus longitudinaliter dehiscentes. *Semina* numerosa, cylindracea, curvata, utrinque subacuta ad marginem suturæ inserta.

This was first discovered by Dr. Richardson, and described by him in the Appendix to Captain Franklin's first Expedition, from recent specimens, in Arctic America, and which were lost in crossing the barren



Tofieldia coccinea Rich.

W J H del.

Swan Sc.

grounds. Mr. Menzies found it on the North-West coast of America; Chamisso detected it in Unalaschka; and Messrs. Lay and Collie in Kotzebue's Sound. Dr. Richardson describes the scape and bracteas as reddish, and the sepals as marked with a red line down the back, or wholly dull red; whence the specific name. That Author, too, well observes, "Herba elegantia *T. borealis* tota carens." The leaves are more flaccid, and of a duller colour, and the flowers are almost entirely sessile; thus bringing the involucrum close to the flower, which, in *T. borealis*, is separated by the length of the pedicel.

Tab. XXIX. Tofieldia coccinea. *Fig.* 1, Flower and bracteæ; *fig.* 2, Sepal and stamen; *fig.* 3, Stamen; *fig.* 4, Pistil; *fig.* 5, Capsule, with the persistent withered stamens and perianth; *fig.* 6, Capsules combined; *fig.* 7, One of the capsules cut open to show the seed; *fig.* 8, Seed:—*magnified.*

Ord. XXXVII. JUNCEÆ. *Juss.*

1. Juncus *castaneus. Engl. Bot. t.* 900. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 374.

The specimens in this Collection are twice or thrice as tall as those of Scotland; two feet or more high.

1. Luzula *arcuata. Meyer.—Hook. in Fl. Lond. cum Ic. Cham. et Schlecht. in Linnæa, v.* 3. *p.* 375.—Juncus arcuatus. *Wahl. Lapp.*

2. Luzula *spicata. De Cand.—Cham. et Schlecht. in Linnæa, v.* 3. *p.* 376.—Juncus spicatus. *Linn.*

3. Luzula *melanocarpa. Desv.—Cham. et Schlecht. in Linnæa, v.* 3. *p.* 374.

Ord. XXXVIII. TYPHACEÆ. *Juss.*

1. Sparganium *natans. Linn.*

Ord. XXXIX. CYPERACEÆ. *Juss.*

1. Eriophorum *capitatum. Schrad.*

2. Eriophorum *angustifolium. Roth.*

1. Carex *Gmelini.—supra, p.* 118. *t.* 27.

2. Carex *atrata. Linn.*

3. Carex *saxatilis. Linn.*

4. Carex *membranacea;* spica mascula subsolitaria, fœmineis magis minusve pedicellatis oblongo-cylindraceis erectis obtusis (atro-fuscis nitidis), fructu lævi rotundato inflato breviter acuminato bifido pedicellato, vaginis perbrevibus. *Hook. in Parry's 2d Voy. App. p.* 406.

5. Carex *cæspitosa. Linn.—Engl. Bot. t.* 1507.

6. Carex *stricta. Linn.—Engl. Bot. t.* 914.

Ord. XL. GRAMINEÆ. *Juss.*

1. Alopecurus *alpinus. Engl. Bot. t.* 1126. *Brown, in Parry's* 1*st Voy. App. p.* clxxxiv.

1. Deschampsia *brevifolia. Brown, in Parry's* 1*st Voy. App. p.* cxci.

1. Vilfa *arundinacea;* foliis planis lanceolato-linearibus, panicula patula, gluma inferiore

valvulis undique hirtis tertiam partem breviori, superiore easdem subæquante. *Trin. Diss. v.* 1. *p.* 157, *Ejusd. Spec. Gram. fasc.* 5. *t.* 55.

2. Vilfa *monandra;* panicula contracta, gluma inferiore brevissima, superiore valvulis fere triplo breviori, foliis linearibus. *Trin. Diss. p.* 159. *Ejusd. Sp. Gram. fasc.* 7. *t.* 84.—Phippsia monandra. *Trin. in N. Entdek,* 2. *p.* 37.

This we had taken for the *Vilfa algida,* (*Phippsia,* Br.) but it is larger, and certainly the *V. monandra* of Trinius, who observes that it is the var. of *P. algida,* mentioned by Mr. Brown, as found by Mr. Nelson, at Tschutski. Chamisso also discovered it in the Bay of St. Lawrence.

1. Calamagrostis *stricta. Schrad.—Engl. Bot. t.* 2160.

1. Hierochloe *borealis. Schrad.—supra, p.* 119.

2. Hierochloe *alpina. Roem. et Schult. Syst. Veget. v.* 2. *p.* 513.—Holcus alpinus. *Sw.*—*Wahl. Lapp. p.* 31. *t.* 2.

1. Dupontia *Fischeri. Brown, in Parry's* 1*st Voy. App. p.* cxci.—β. flavescens.

There are two states of this plant, as it appears to us, in the Collection; a purple-flowered one, with usually a single flower only in each calyx, and a yellow-flowered var., with two flowers in each calyx, one upon a rather long stalk. In other respects, the characters are the same. The lower branches of the panicle are often horizontally patent, sometimes completely deflexed.

1. Poa *angustata. Brown, in Parry's* 1*st Voy. App. p.* clxxxvii.

2. Poa *nemoralis. Linn.*

3. Poa *arctica. Brown, in Parry's* 1*st Voy. App. p.* clxxxviii.

In the Collection are specimens, varying in height from 4–6 inches to two feet.

1. Festuca *ovina. Linn.*

2. Festuca *duriuscula. Linn.*

1. Bromus *purgans. Willd.—supra, p.* 119.

1. Trisetum *subspicatum. Beauv.—supra, p.* 119.

1. Elymus *arenarius. Linn.—supra, p.* 119.

ORD. XLI. EQUISETACEÆ. *De Cand.*

1. Equisetum *arvense. Linn.—supra, p.* 119.

ORD. XLII. LYCOPODIACEÆ. *Sw.*

1. Lycopodium *annotinum. Linn.*

2. Lycopodium *Selago. Linn.*

ORD. XLIII. POLYPODIACEÆ. *Br.*

1. Cistopteris *fragilis. Bernhardi.—supra, p.* 119.

1. Nephrodium *fragrans. Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 39. *Hook. et Grev. Ic. Fil. t.* 70.—Aspidium fragrans. *Willd.*—Polypodium. *Linn.*

ORD. XLIV. MUSCI. *Linn.*

1. Sphagnum *acutifolium. Ehrh.*

1. Polytrichum *alpinum. Linn.—supra, p.* 119.

2. Polytrichum *juniperinum. Willd.*

3. Polytrichum *nanum. Hedw. St. Cr. t.* 13.

4. Polytrichum *lævigatum. Wahl. Lapp. p.* 349. *t.* 22. *Hook. Musc. Exot. t.* 81. *Brown, in Parry's* 1*st Voy. App. p.* cxcv.

1. Conostomum *boreale. Sw.*

1. Splachnum *mnioides. Linn. Fil.*

1. Dicranum *Schraderi. Schwaegr. Suppl. v.* 1. *P. I. p.* 166. *t.* 61.

1. Didymodon *capillaceum. Schrad.*

2. Didymodon *purpureum. Hook. et Taylor, Musc. Brit.*

1. Trichostomum *lanuginosum. Hedw.*

1. Bryum *palustre. Sw.—supra, p.* 120.

2. Bryum *nutans. Schreb.—supra, p.* 120.

1. Hypnum *salebrosum? Hoffm.* (sine fruct.)

2. Hypnum *lutescens. Huds.*

3. Hypnum *aduncum. Linn.*

ORD. XLV. HEPATICÆ.

1. Marchantia *polymorpha. Linn.—supra, p.* 120.

ORD. XLVI. LICHENES. *Ach.*

1. Lecanora *ventosa. Ach.—Engl. Bot. p.* 90. *t.* 906.

2. Lecanora *Tartarea. Ach. var.* upsaliensis.—Lichen upsaliensis. *Engl. Bot. t.* 169.

1. Parmelia *diatrypa. Ach.*—Lichen diatrypus. *Engl. Bot. t.* 1248.

1. Peltidea *aphthosa. Ach.—supra, p.* 120.

1. Stereocaulon *paschale. Ach.—supra, p.* 120.

1. Cetraria *cucullata. Ach.*—Lichen cucullatus. *Linn.*

2. Cetraria *Islandica. Ach.*—Lichen Islandicus. *Engl. Bot. t.* 1330.

1. Cornicularia *ochroleuca. Ach.*—Lichen ochroleucus. *Engl. Bot. t.* 2374.

2. Cornicularia *divergens. Ach.—Wahl. Lapp. p.* 439. *Fl. Dan. t.* 262. *Hook. in Parry's* 2*d Voy. App. p.* 486.

1. Dufourea *arctica. Br.—Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 47. *t.* 31.

1. Cenomyce *rangiferina. Ach.*—Lichen rangiferinus. *Engl. Bot. t.* 277.

2. Cenomyce *pyxidata. Ach.*—Lichen pyxidatus. *Engl. Bot. t.* 1393.

3. Cenomyce *uncialis. Ach.*—Lichen uncialis. *Engl. Bot. t.* 174.

4. Cenomyce *ecmocyna. Ach.*—Lichen gracilis. *Engl. Bot. t.* 1464.

5. Cenomyce *pungens. Ach.*—Lichen pungens. *Engl. Bot. t.* 2444.

6. Cenomyce *radiata. Ach.*—Lichen radiatus. *Engl. Bot. t.* 1835.

ORD. XLVII. FUNGI. *Linn.*

1. Dothidea *betulina. var.* β. *Betulæ nanæ. Fries, Syst. Myc. v.* 2. *p.* 555. *Grev. Scot. Cr. Fl. t.* 200. *f.* 2.

1. Erineum *roseum. Schult. Fl. Stutg. p.* 506. *Grev. Cr. Scot. Fl. Suppl.*—E. Betula. *De Cand.—Grev. Scot. Cr. Fl. p.* 21.

ORD. XLVIII. ALGÆ.

1. Fucus *vesiculosus. Linn.—Engl. Bot. t.* 1066.—var. *minor;* vesiculis destitutis.

CALIFORNIA.

[Collected at San Francisco, and a few at Monterey Bay.]

ORD. I. RANUNCULACEÆ.

1. Ranunculus *aquatilis. Linn.*

2. Ranunculus *Chilensis. DC.*—vide *supra, p.* 4. *t.* 3.

Although this plant is in the Herbarium, from California, it may have been unintentionally introduced from the Chilian Collection.

ORD. II. BERBERIDEÆ. *Vent.*

1. Berberis *acuifolium;* foliis bi-tri-jugis, jugo inferiore a petioli basi distante, foliolis ovatis approximatis spinuloso-dentatis basi cordatis uninerviis, racemis erectis confertis, filamentis bidentatis. *Hook.—Pursh, Fl. Am. v.* 1. *p.* 219. *t.* 4. *Hook. Fl. Bor. Am. v.* 1. *p.* 29, (excl. syn. *B. repentis. Lindl.*) *Lindl. in Bot. Reg. t.* 1425.—Mahonia acuifolium. *De Cand. Prodr. v.* 1. *p.* 108.

The single specimen is not in a good state, being destitute of flower or fruit.

ORD. III. PAPAVERACEÆ. *Juss.*

1. Eschscholtzia *Californica. Cham. in Hor. Phys. Berol.—De Cand. Prodr. v.* 3. *p.* 344. *Lindl. in Bot. Reg. t.* 1168. *Hook. in Bot. Mag. t.* 2887.

ORD. IV. CRUCIFERÆ. *Juss.*

1. Cheiranthus *capitatus;* subasper, foliis lineari-lanceolatis magis minusve dentatis vel integris basi longe attenuatis cauleque pube bipartita arctissime appressa strigosis, floribus majusculis dense corymbosis, siliquis pedicello triplo longioribus.—*Douglas, MSS.—Hook. in Fl. Bor. Am. v.* 1. *p.* 38.—Cheiranthus asper. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 14. (non *Nutt.*)

1. Nasturtium *palustre. DC.—Hook. Fl. Bor. Am. v.* 1. *p.* 39.—Sisymbrium terrestre. *Engl. Bot. t.* 1747.

1. Cardamine *angulata;* foliis omnibus petiolatis ternatis rarius pinnatis radicalium foliolis subrotundis, caulinorum ovatis lanceolatisve angulato-vel inciso-lobatis glabris. *Hook. in Fl. Bor. Am. v.* 1. *p.* 44, *in Bot. Misc. P. III. p.* 314. *t.* 69.

1. Erysimum *asperum;* pube bipartita adpressa ubique incanum asperum, caule simplici, foliis lineari-lanceolatis integris radicalibus runcinato-dentatis, unguibus calyce longioribus, siliquis longis patentibus, stigmate bilobo. *Hook. Fl. Bor. Am. v.* 1. *p.* 64. *t.* 22.—Cheiranthus asper. *Nutt. Gen. Am. v.* 2. *p.* 69. (non *Cham.*)

ORD. V. VIOLARIEÆ. *De Cand.*

1. Viola *adunca;* stigmate subreflexo glabro, caule adscendente simpliciusculo, foliis ovatis cordato-ovatisque coriaceis crenatis insigniter fusco-punctatis, stipulis lanceolato-acuminatis profunde dentato-ciliatis, sepalis lineari-lanceolatis, petalis duobus barbatis calcare nunc adunco vix longioribus, pedunculis elongatis folia multo superantibus. *Sm. in Rees' Cycl.—Hook. Fl. Bor. Am. v.* 1. *p.* 79.

ORD. VI. CISTINEÆ. *Juss.*

1. Helianthemum ——— ?

Specimens of a shrubby *Helianthemum* exist in the Collection, but in so bad a state, that it is impossible to describe it. It probably comes near *H. tripetalum,* Moc. et Sess. in De Cand. Prodr. v. 1. p. 284; but the petals appear to be five.

ORD. VII. FRANKENIACEÆ. *St. Hil.*

1. Frankenia *grandifolia;* foliis obovato-cuneatis mucronulatis margine revolutis subcoriaceis hirtellis basi ciliatis, caulibus prostratis, ramis calycibusque hirtis. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 35. *Presl, in Reliq. Hænk. v.* 2. *p.* 3.—Velezia latifolia. *Eschscholtz, in Linnæa, v.* 3. *p.* 149.

ORD. VIII. CARYOPHYLLEÆ. *Juss.*

1. Stellaria *media. Linn.*

1. Silene *Drummondii;* tota pubescenti-glandulosa viscida, caulibus erectis simplicibus strictis, foliis remote lineari-lanceolatis, racemo laxo paucifloro, pedicellis elongatis plerumque alternis, calycibus oblongo-cylindraceis erectis. *Hook. in Fl. Bor. Am. v.* 1. *p.* 89. —S. Nicæensis? *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 41.

ORD. IX. MALVACEÆ. *Br.*

1. Sida *malvæflora;* foliis radicalibus subrotundatis 9-lobatis basi truncatis, lobis apice tridentatis caulinis 5-partitis, laciniis linearibus subdentatis, racemo terminali, carpellis muticis. *Lindl.—De Cand. Prodr. v.* 1. *p.* 474. *Lindl. in Bot. Reg. t.* 1036. *Hook. Fl. Bor. Am. v.* 1. *p.* 108.

ORD. X. HYPERICINEÆ. *Juss.*

1. Hypericum *anagalloides;* caule herbaceo humifuso repente, foliis 5–7-nerviis obtusis tenuissime pellucido-punctatis, cyma terminali foliosa pauciflora eglandulosa, laciniis calycinis obovatis corolla brevioribus, staminibus 15–20 subliberis, stylis discretis tribus. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 127.

In general appearance and size, this approaches the *H. quinquenervium* of Walter and of Hook. Fl. Bor. Am. v. 1. p. 110, but that is an erect plant.

ORD. XI. GERANIACEÆ. *Juss.*

1. Geranium *Carolinianum. DC.—Hook. Fl. Bor. Am. v.* 1. *p.* 116.

1. Erodium *cicutarium. L'Hérit.—Hook. Fl. Bor. Am. v.* 1. *p.* 116.

ORD. XII. OXALIDEÆ. *De Cand.*

1. Oxalis *corniculata. Linn.—Hook. Fl. Bor. Am. v.* 1. *p.* 117.

ORD. XIII. RHAMNEÆ. *Br.*

1. Rhamnus *oleifolius;* inermis, erectus, foliis perennantibus coriaceis oblongis integerrimis acutis, junioribus subtus pubescentibus, nervis lateralibus obliquis remotiusculis, paniculis axillaribus foliosis, floribus glomeratis pentandris, petalis minutissimis, bacca disperma. *Hook. Fl. Bor. Am. v.* 1. *p.* 123. *t.* 44.

2. Rhamnus? *cuneatus;* ramis subferrugineo-pubescentibus, foliis oppositis in axillis fasciculatis coriaceis brevissime petiolatis cuneatis obtusis retusisve supra glabris subtus pubescentibus albidis reticulatis. *Hook. Fl. Bor. Am. v.* 1. *p.* 124.

The only specimen of this in the Collection, is in exactly the same state as that which was received from Mr. Douglas, and described in the Flora Boreali-Americana, that is, destitute of flower and fruit: we are therefore unable to add anything to the very unsatisfactory account there given of this highly curious shrub.

1. Ceanothus *thyrsiflora;* caule erecto stricto ramisque angulatis, foliis breviter petiolatis oblongis triplinerviis glanduloso-serratis glabris subtus nervis venisque appresso-pilosis, paniculis longe pedunculatis axillaribus thyrsoideis inferne foliosis, pedicellis brevibus. *Hook.*—" *Eschscholtz, in Desr. Pl. Nov. Calif. in Mém. de l'Acad. Imp. de Petersb. v.* 10. 1826," *et in Linnæa, v.* 3. *p.* 149. *Hook. Fl. Bor. Am. v.* 1. *p.* 125.

The specimens of this exhibit, what Eschscholtz has correctly noticed, that the calyx is blue, and the petals white.

ORD. XIV. TEREBINTHACEÆ. *Juss.*

1. Rhus *radicans;* caule radicante, foliis 3-foliolatis, foliolis ovato-rotundatis rhomboideisve acutis seu acuminatis glabris integris. *Linn. Sp. Pl. p.* 381. *Hook. Fl. Bor. Am. v.* 1. *p.* 127.

This agrees with specimens from Eastern America, and the *R. Toxicodendron* is scarcely different from it.

2. Rhus *lobata;* caule stricto, ramulis brevibus foliosis, foliis trifoliolatis, foliolis ovatis obtusissimis varie lobatis lobis obtusis sinubus acutis, paniculis laxis petiolo longioribus. *Hook. Fl. Bor. Am. v.* 1. *p.* 127. *t.* 46.

The specimens in the Herbarium differ in no respect from the more northern ones discovered by Mr. Douglas at Fort Vancouver on the Columbia, and figured in the Flora Boreali-Americana.

ORD. XV. LEGUMINOSÆ. *Juss.*

1. Melilotus *parviflora. Desv.—De Cand. Prodr. v.* 2. *p.* 187.

Introduced?

1. Trifolium *fimbriatum;* prostratum, glabrum, foliolis oblongis subcuneatisve spinuloso-denticulatis, stipulis ovato-acuminatis laciniato-spinulosis, involucro monophyllo laciniato-multifido capitulis subglobosis breviore, dentibus calycinis lato-subulatis rectis corolla subdimidio brevioribus. *Hook.—Lindl. in Bot. Reg. t.* 1070. *Hook. Fl. Bor. Am. v.* 1. *p.* 133.

1. Medicago *denticulata. Willd.—De Cand. Prodr. v.* 2. *p.* 176.

Probably introduced from Europe.

1. Hosackia *bicolor;* glabra, decumbens, foliolis suboppositis 7–9 oblongis obovatisve, stipulis cordato-ovatis membranaceis obtusissimis, floribus umbellatis, bractea monophylla vel nulla.—*Douglas, MSS.—Benth. in Bot. Reg. t.* 1257. *Hook. Fl. Bor. Am. v.* 1. *p.* 134. —Lotus pinnatus. *Hook. in Bot. Mag. t.* 2913.

2. Hosackia *decumbens;* pubescens, foliolis alternis 3–5 ovali-subcuneatis acutis, stipulis minutissimis acutis deciduis, floribus umbellatis, bractea 1–3-foliolata.—*Benth. in Bot. Reg. sub t.* 1257. *Hook. Fl. Bor. Am. v.* 1. *p.* 134.—Lotus incanus. *Douglas, MSS.*—*β. glabriuscula;* foliolis minoribus siccitate subæruginoso-viridibus.

The plant in this Collection differs from the more northern *H. decumbens* of Mr. Douglas, in the smaller size of the leaflets and flowers, in the less degree of pubescence, and, when dry, in its becoming of an almost æruginose green colour. In other respects, the two species accord.

3. Hosackia *tomentosa;* tota incano-tomentosa, foliolis 5 obovatis acutis, floribus umbellatis sessilibus, bractea folium simulante.

This will assuredly rank next to *H. decumbens,* from which it differs almost solely in the very dense covering of white hairs. Only one specimen exists in the Collection, and that has young fruit, and no flowers. The *legumes* are short, in proportion to the length of the *style.* The *stigma* is not capitate, but simply obtuse, as in *Lotus subbipinnatus* of Lagasca, and of this work, p. 17. t. 8; which, Mr. Bentham is decidedly of opinion, should be referred to *Hosackia.*

4. Hosackia *Purshiana;* pubescenti-villosa, foliolis 3 raro-4–5 lato-oblongis, stipulis

minutissimis deciduis, pedunculis 1-floris, bractea sub flore 1-foliolata.—*Benth. in Bot. Reg. sub t.* 1257.—Trigonella Americana. *Nutt. Gen. Am. v.* 2. *p.* 120.—*De Cand. Prodr. v.* 1. *p.* 185.—Lotus sericeus. *Pursh, Fl. Am. v.* 2. *p.* 489.

This exactly agrees with our original specimen of *Trigonella Americana*, received from Mr. Nuttall, except that the leaflets are rather shorter in proportion to their breadth. There is, however, nothing silky about the plant in its dried state, as Pursh's name would seem to imply: it is clothed with soft and short patent hairs, which give no glossiness to the stems or foliage, and which are best seen when the plant is held up between the eye and the light. In the greater number of its leaflets, this species differs from *H. unifoliolata*, α., and in the larger flowers and seed-vessels.

1. Phaca *densifolia;* caule decumbente ramoso glabro, stipulis ovatis acuminatis, foliis 14–16-jugis subtus rachique villoso-tomentosis, foliolis oblongo-ovalibus emarginatis, pedunculis calycibusque villosis, racemo multifloro compacto, legumine membranaceo ovato maximo inflato glabriusculo reticulato.—*Sm. in Rees' Cycl.*—*De Cand. Prodr. v.* 2. *p.* 274.

The *legumes* of this very fine species of *Phaca*, which was first found by Mr. Menzies in California, are remarkably large, inflated and membranaceous; in these respects, exactly resembling those of *Phaca inflata*, of Dr. Gillies (in *Bot. Misc. ined.*), from Uspallata in South America. The habit of the two species is likewise very similar; but, in Dr. Gillies', the whole plant is glabrous, and the flowers are much smaller.

2. Lathyrus *decaphyllus;* glaber vel pubescens, foliolis 4–6-jugis ellipticis rarius ovatis vel suboblongis, stipulis parvis semisagittatis lanceolatis lobo deflexo stipulam subæquante, pedunculis folii longitudine multifloris, calyce pubescente dentibus duobus superioribus valde abbreviatis, (corollis purpureis,) leguminibus lineari-oblongis compressis. *Hook.*—*Pursh, Fl. Am. v.* 2. *p.* 471. *Hook. Fl. Bor. Am. v.* 1. *p.* 160, *et in Bot. Mag. t.* 3123.—*β. minor;* foliolis minoribus angustioribus.

This appears to be a very variable plant, and the specimens in the Collection have the leaflets smaller and narrower than is the case with the plant figured in the Bot. Mag.; but not more so than in some specimens from the Columbia, gathered by Mr. Douglas.

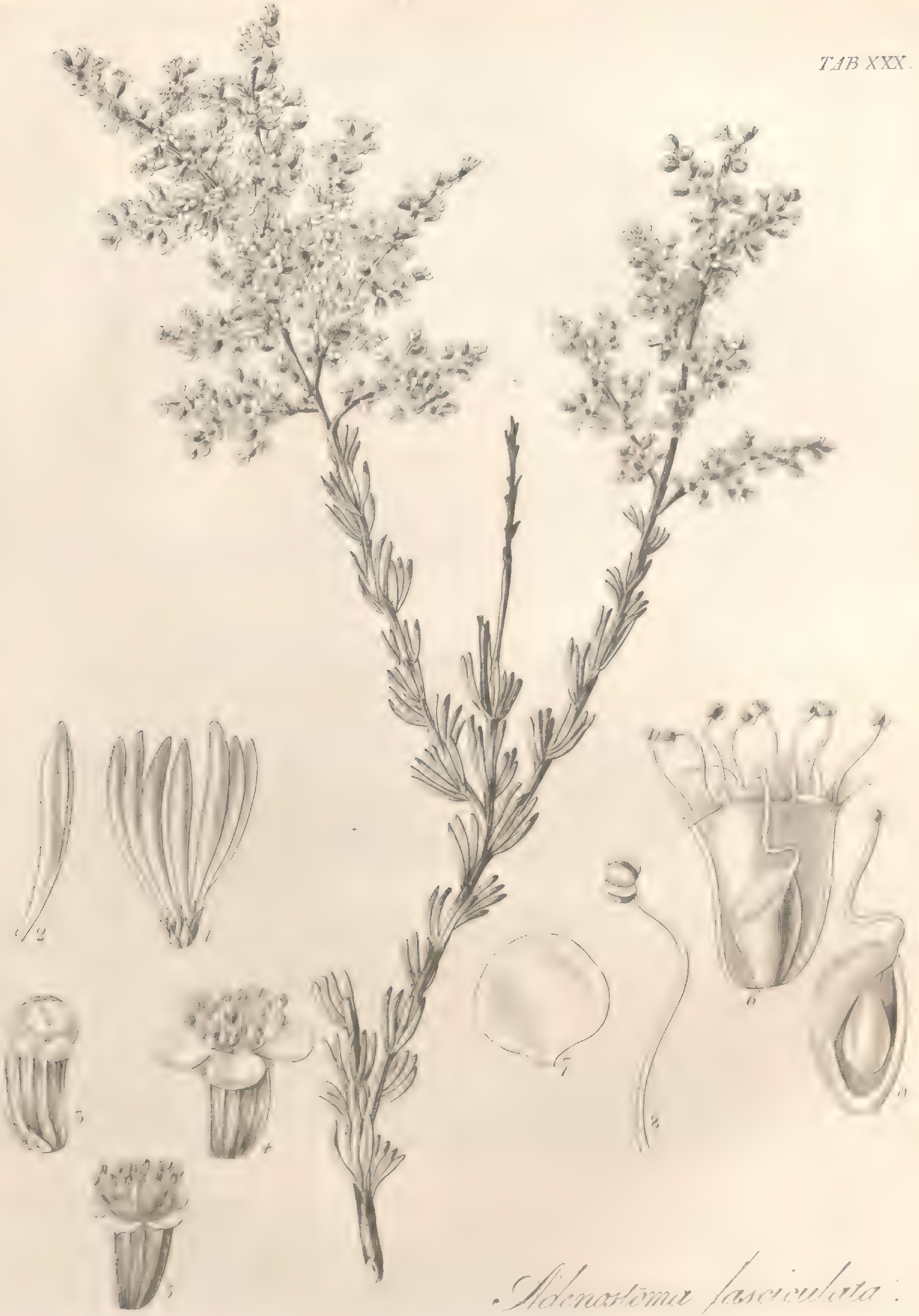
1. Lupinus *polyphyllus. Lindl. in Bot. Reg. t.* 1097.—L. Chamissonis. *Eschscholtz, in Linnæa, v.* 3. *p.* 151?

We cannot be mistaken in this plant, although only a single leaf exists in the Collection.

2. Lupinus *macrocarpus;* suffruticosus, foliosus, foliis subbrevi-petiolatis septenis, foliolis lanceolatis obtusissimis inferne attenuatis supra glabris subtus appresso-pubescenti-sericeis, racemo multifloro, floribus (inter maximos) raro verticillatis, calycibus pedicellis rachique appresso-sericeis, leguminibus lineari-oblongis tumidis hirsutis 8–10-spermis.

Found by Mr. Menzies during the voyage with Captain Vancouver, and probably common about San Francisco; yet it does not correspond with any described species, nor with any found by Mr. Douglas. The lower part of the stem is decidedly shrubby, the leaves and legumes large in proportion to the size of the plant, apparently yellow when recent. Perhaps, in habit, its nearest affinity is with *L. littoralis*, Dougl., but the leaves are, in that plant, silky on both sides, the flowers are differently coloured, and the legumes are not half the size.

3. Lupinus *sericeus;* fruticosus, ubique pulcherrime appresso-sericeus aureo-nitens, caule valde folioso, foliis breviter petiolatis septenis, foliolis lanceolatis acutis inferne attenuatis,



Adenostŏma fasciculata.

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floribus subverticillatis majusculis.—*Pursh, Fl. Am. v.* 2. *p.* 468. *De Cand. Prodr. v.* 2. *p.* 408. *Eschscholtz, in Linnæa, v.* 3. *p.* 151. *Hook. Fl. Bor. Am. v.* 1. *p.* 164.

This, along with the preceding, has long lain in our Herbarium undescribed, the gift of the generous Menzies, who gathered it in California, and probably at San Francisco. It is, without doubt, the *L. sericeus* of Eschscholtz, and probably too of Pursh; though we have no authentic specimen to confirm this opinion. It is among the most beautiful of the genus, small, suffruticose, densely leafy, often throwing out numerous short branches, and every where, except the corolla, clothed with densely appressed aureo-nitent silky hairs. The flowers are described by Eschscholtz as yellow, though in the dried state, as that author observes, they become tinged with purple.

Ord. XVI. ROSACEÆ.

(Sect. Spiraceæ. *De Cand.*)

ADENOSTOMA. *Nov. Gen.*

Calyx infundibuliformis, inferus, coriaceus, 5-angulatus, 5-fidus, lobis rotundatis brevibus mucronulato-acutis: tubi ore glandulis quinque transversim oblongis carnosis munito. *Petala* 5, subrotunda, vix unguiculata, patentia. *Stamina* 15 erecto-patentia. *Antheræ* subglobosæ. *Pistillum* 1. *Ovarium* obovato-cylindraceum, uniovulatum? apice oblique truncatum pubescenti. *Stylus* lateralis, vix calycem longior, flexuosus. *Stigma* obtusum, subincrassatum.

1. Adenostoma *fasciculata.* (Tab. XXX.)

Frutex rigidus glaberrimus ramosus; *rami* stricti subvirgati. *Folia* fasciculata lineari-filiformia rigida brevissime petiolata basi stipula minutissima suffulta. *Fasciculi* foliorum etiam stipulati, stipula bifida. *Flores* fasciculati in spicam interruptam terminalem aphyllam congesti, parvi, albi; bracteis plurimis parvis subimbricatis, ovatis, acutis, rigidis, exterioribus sæpe divisis.

It is to be regretted that we do not possess perfect fruit of this plant, which we consider as unquestionably belonging to the Natural Order *Rosaceæ,* and very different from any genus yet described. In habit, it perhaps comes nearest to some species of *Spiræa,* yet the flowers are abundantly different: the calyx being furnished with five conspicuous fleshy glands or scales at the mouth, and the germen remarkably and obliquely truncated at the extremity, and there and there only very pubescent. It constitutes apparently a small rigid *shrub,* glabrous in every part, with upright twiggy *branches* clothed with greyish-brown *bark.* The *leaves* are small and always fasciculated, the fascicle, as well as each individual *leaf,* being subtended by a stipule; that of the latter is bifid. *Flowers* in an interrupted terminal leafless spike, clustered, with many small imbricated *bracteæ* at their base. It grows in sandy plains in the Bay of Monterrey.

Tab. XXX. Adenostoma fasciculata. *Fig.* 1, Fascicle of leaves; *fig.* 2, Single leaf; *fig.* 3, Flower-bud; *fig.* 4, Expanded flower; *fig.* 5, Flower, from which the petals have fallen away; *fig.* 6, Inner view of a portion of the flower, to show the glands; *fig.* 7, Petal; *fig.* 8, Stamen; *fig.* 9, Pistil:—all more or less *magnified.*

1. Horkelia *Californica;* foliis radicalibus pinnatis 5–7-jugis, foliolis late cuneato-obovatis profunde serratis, calycis laciniis exterioribus 3-dentatis, petalis calyce brevioribus.—*Cham. et Schlecht. in Linnæa, v.* 2. *p.* 26.

This is a very distinct species from the *H. congesta* of Douglas and Hook. in Bot. Mag. t. 2880, and has been well described by Chamisso and Schlechtendal in the *Linnæa.*

1. Photinia *arbutifolia;* foliis oblongo-lanceolatis distanter dentatis, pedicellis calyce brevioribus. *Lindl. Pomac. in Linn. Trans. v.* 12. *p.* 103; *et in Bot. Reg. t.* 491. *De Cand. Prodr. v.* 2. *p.* 631.—Cratægus arbutifolia. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 202.

1. Rubus *macropetalus;* hirsutus, caule elato fruticoso, ramis angulatis gracilibus elongatis, petiolis costis subtus pedunculis calycibusque aculeato-setaceis, foliis trifoliolatis, foliolis ovatis inciso-lobatis serratis membranaceis, terminali majore longe (lateralibus brevi-) petiolulatis, stipulis lanceolatis, pedunculis subbifloris, calycis segmentis longe acuminatis petala (alba) subæquantibus.—*Douglas, in Hook. Fl. Bor. Am. v.* 1. *p.* 178. *t.* 59.

2. Rubus *Menziesii;* caule procumbente terete aculeato glabro, ramis brevibus pubescenti-tomentosis aculeatis, foliis 3-foliolatis, foliolis lato-ovatis sublobatis inæqualiter serratis brevi-petiolulatis supra hirsutis subtus pallidioribus hirsutissimis, paniculis terminalibus paucifloris, pedicellis calycibusque aculeatis, segmentis calycinis ovatis acutis mucronatis tomentosis corolla (rubra) brevioribus. *Hook. Fl. Bor. Am. v.* 1. *p.* 179.—R. ursinus. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 11?

This is a more luxuriant plant than Mr. Menzies' specimens, but in every other respect the same. In many points, it agrees with the *R. ursinus* of Chamisso and Schlechtendal; but in that, the leaves appear to be frequently simple, and those authors compare it with *R. Idæus.*

3. Rubus *velutinus;* inermis, caule fruticoso erecto flexuoso pubescente basi nudo, foliis amplis simplicibus profunde cordatis acute 5-lobis serratis reticulatis molliter densissime pubescenti-tomentosis subtus pallidis velutinis, stipulis ovatis acuminatis sericeis, corymbis paucifloris, calycibus velutinis laciniis obtusis corolla (alba) brevioribus longe cuspidatis.

This is abundantly distinct, both from *R. odoratus and R. Nutkanus*, and, as far as can be judged from the description, equally so from the *A. vitifolius* of Cham. et Schlecht., which, however, like the present, is a native of San Francisco: all belong to the simple and lobed fruticose species of the Genus. The underside of the leaves is pale and velvety, and beautifully relieved by the reticulations.

1. Fragaria *Chilensis;* floribus (magnis) patentibus, foliolis late obovatis obtusissimis apice grosse serratis coriaceis rugosis subtus sericeo-villosissimis, pedunculis calycibusque sericeis.—*Ehrh. Beitr.*—*De Cand. Prodr. v.* 2. *p.* 571. *Hook. Fl. Bor. Am. v.* 1. *p.* 185.

2. Fragaria *Californica. Cham. et Schlecht. in Linnæa, v.* 2. *p.* 20.

Specimens, quite according with the description in the Linnæa, are in the Collection; but in a very imperfect state. Perhaps the var. β. of the *F. Chilensis,* noticed in Hook. Fl. Bor. Am., should be referred to it: but here, the peduncle is single-flowered, and very short.

ROSA;—Of this genus, three species are in the Collection: one with double flowers, and probably the inhabitant of a garden. The others are too imperfect to be satisfactorily determined, having no perfect flower nor fruit. Neither of them, however, accords with the *R. Californica* of Schlechtendal, and must be different from it, unless we make great allowance for the sportive nature of the species of this most difficult genus.

ORD. XVII. ONAGRARIÆ. *Juss.*

1. Zauschneria *Californica;* foliis linearibus denticulatis integrisve, bracteis ovario brevioribus, capsulis subsessilibus. *Presl, in Reliq. Hænk. v.* 2. *p.* 28. *t.* 52.

This very remarkable genus, with flowers in shape and colour resembling a *Fuchsia,* but with the fruit of an *Epilobium,* was first discovered in California by Mr Menzies, and noticed in the " Annals of Botany," by Mr. König (v. 1. p. 543.) It was not, however, described and named, till it appeared very recently in the valuable *Reliquiæ Hænkeanæ* of Presl. That author thus defines the generic character: *Cal.* superus deciduus, tubo infundibuliformi cum ovario articulato, colorato, basi supra ovarium globoso-ventricoso, limbo quadripartito. *Petala* quatuor, summo tubo inserta. *Antheræ* lineares, dorso affixæ. *Ovarium* lineare, tetragonum. *Stylus* filiformis. *Stigma* capitatum, 4-lobum. *Capsula* linearis, tetragona, quadrivalvis, unilocularis, polysperma. *Semina* oblonga, papposa.—Suffrutices *decumbentes, ramosissimi, tomento tenui canescentes.* Rami *oppositi.* Folia *opposita, angusta.* Racemi *terminales, simplices.* Flores *sessiles, coccinei.*"—It appears to be only found at Monterrey.

1. Epilobium *tetragonum. Linn.—Lehm. in Hook. Fl. Bor. Am. v.* 1. *p.* 206.

1. Œnothera *biennis. Linn.—Lehm. in Hook. Fl. Bor. Am. v.* 1. *p.* 209.

2. Œnothera *Lindleyii;* caule adscendente diffuso ramoso, foliis lineari-lanceolatis integerrimis glabris, calycis tubo laciniis triplo breviore, petalis integris denticulatis genitalia duplo superantibus, stigmatibus luteis, capsulis cylindricis elongatis utrinque attenuatis puberulis. *Lehm.—Douglas, in Bot. Mag. t.* 2832. *Lehm. in Fl. Bor. Am. v.* 1. *p.* 213.

3. Œnothera *spiralis;* caule subsimplice decumbente incano, foliis anguste ovatis oblongisve obtusis integerrimis vel obscure dentatis strigoso-pilosis incanis inferne in petiolum attenuatis, floribus solitariis, petalis (siccitate sæpissime viridibus) stamina duplo superantibus, capsulis acute tetragonis acuminatis incanis demum glabriusculis subspiraliter tortis. *Hook. in Fl. Bor. Am. v.* 1. *p.* 213.

Ord. XVIII. CUCURBITACEÆ. *Juss.*

There are two Cucurbitaceous plants in the Collection, but without flower, and probably cultivated, as is assuredly the case with a *Mesembryanthemum* in the Herbarium.

Ord. XIX. GROSSULARIEÆ. *De Cand.*

1. Ribes *Menziesii;* aculeatissimum, spinis tripartitis, foliis cordatis 5-lobis serratis basi truncatis venoso-rugosis subtus pubescenti-tomentosis, pedunculo subunifloro, calyce cylindraceo-campanulato profunde 5-fido glanduloso, staminibus 5 inclusis, stylo subexserto germine pedunculoque aculeatis. *Hook.—Pursh, Fl. Am. v.* 2. *App. p.* 732. *De Cand. Prodr. v.* 3. *p.* 478. *Hook. Fl. Bor. Am. v.* 1. *ined.*—R. ferox. *Sm. in Rees, et De Cand.*

2. Ribes *sanguineum;* inerme, foliis cordatis subquinquelobis serratis venosis supra glabriusculis subtus villoso-tomentosis, racemis laxis pubescentibus foliis duplo longioribus, calycibus tubuloso-campanulatis laciniis oblongis obtusis patentibus petala (rubra) integerrima superantibus, bracteis obovato-spathulatis, baccis turbinatis hirsutis. *Douglas.—Pursh, Fl. Am. v.* 1. *p.* 164. *Dougl. in Hort. Trans. v.* 7. *p.* 509. *t.* 13. *Bot. Reg. t.* 1349. *Hook. Fl. Bor. Am. ined.*—R. malvaceum. *Sm. in Rees' Cycl.*

There is still a third species of *Ribes* (Sect. Grossularia,) in the Herbarium, with a solitary stipulary spine and no aculei, and with leaves resembling those of *R. Cynosbati,* only thrice as large: but being destitute of flowers and fruit, it cannot be determined.

Ord. XX. UMBELLIFERÆ. *Juss.*

1. Sanicula *arctopoides;* subacaulis, foliis longe petiolatis profunde 3-partitis laciniis elongato-cuneatis lateralibus bifidis intermedio trifido omnibus subciliato-pinnatifidis, ped-

unculo foliis breviore, involucri foliolis foliaceis lanceolatis integerrimis umbella compacta simplice longioribus.

First discovered, along with the following species, by Mr. Menzies. The general similarity of the plant to *Arctopus capensis* has suggested the specific name. There are scarcely any stems, and the umbels are nearly concealed among the leaves, which are almost fringed with long narrow and much acuminated teeth, the larger ones of which are likewise so fimbriated.

2. Sanicula *Menziesii;* caulescens, superne subpaniculata, foliis longe petiolatis profunde trifidis, lobis lato-obovatis cuneatis inciso-serratis serraturis acuminatissime mucronatis, umbellis compositis, involucelli foliolis lanceolatis acutis umbellam æquantibus.

Evidently allied to the *S. arctopoides;* but having a stem nearly a span high, with compound umbels, the *umbellules* globose, *flowers* small, yellow.

1. Eryngium *aquaticum? Linn.*

There are no leaves, and only the extremity of a stem of a solitary specimen, so that we are unable satisfactorily to determine the species.

1. Cicuta *maculata? Linn.*

1. Apium *graveolens. Linn.*

1. Discopleura *capillacea. De Cand. Mem Umb. v.* 5. *p.* 38. *t.* 8. A., *Prodr. v.* 4. *p.* 106.

1. Heracleum *Sphondylium? Linn.*

A wretched specimen of this obliges us to put a mark of doubt to the name.

1. Helosciadium? *Californicum;* procumbens? foliis pinnatis pinnis 8–11 ovatis acutis inciso-serratis inferioribus pinnatifidis vel pinnatis, pinnulis paucis, umbellis lateralibus terminalibusque, involucris involucellisque plurifoliolatis, stylis elongatis.

This has a good deal the habit of the *Helosciadium repens* of Europe, but is vastly larger, with more numerous and more divided pinnæ. It appears likewise to depart from the generic character, in having several leaves to the *involucre,* and a long *style.* The fruit is essentially the same in both.

The Herbarium contains two other Umbelliferous plants, from California, but with fruit so young, that we cannot refer them to any known genus. Both have their leaves many times divided into very narrow, linear, almost filiform segments, and the vagina of the leaf is singularly large and inflated. The one is nearly stemless, very pubescent, almost woolly about the umbels and involucres. The *involucella* are about as long as the umbellules, broadly lanceolate, and apparently entire: the very short stems (many arising from the crown of the root) bear each a peduncle about as long as the leaves. The other has a flaccid, apparently procumbent stem, with remote leaves, and is nearly glabrous. There are no involucres, and the involucella are lobed in a somewhat palmated manner, with the lobes acute, and about as long as the small compact *umbellulæ.*

ORD. XXI. CORNEÆ. *De Cand.*

1. Cornus *alba. Linn.*—C. circinata. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 339. (vix *L'Herit.*)

This exactly agrees with our specimens of *C. alba,* from the United States; and, indeed, scarcely differs from *C. circinata* of L'Heritier, with which Chamisso unites it, except in the shape of the leaves. It extends as far north as the Columbia on the western side of America.

ORD. XXII. CAPRIFOLIACEÆ. *Juss.*

1. Lonicera *ciliosa;* volubilis, ramis superioribus hinc hirsutis, foliis coriaceis reticulatis ovatis breviter petiolatis subtus glaucis summis connato-perfoliatis, pedunculis glanduloso-hispidis, floribus verticillato-spicatis.—*Poir. Encycl.* 5. *p.* 612. *De Cand. Prodr. v.* 4. *p.* 333.—Caprifolium ciliosum. *Pursh, Fl. Am. v.* 1. *p.* 160.

We presume this is the *Caprifolium ciliosum* of Pursh, which Lewis found on the Kooskoosky river, but the character given by Pursh is too imperfect to enable us to speak with certainty. It seems to be a large climbing plant, with perennial coriaceous leaves. The younger, or upper branches, are remarkable for the hairs which clothe only one side, the other being glabrous, or nearly so. These hairs are coarse and rigid, and still more so upon the peduncle and among the flowers, which are truly hispid; they are generally terminated by a minute gland. The corolla we have not seen; it is described as yellow by Pursh. The *Caprifolium occidentale* of Lindley, in Bot. Reg. t. 1457, differs from this in the glabrous branches and peduncles, in the capitate flowers, and red corollas.

2. Lonicera *Ledebourii;* erecta, ramis elongatis acute tetragonis, foliis ovatis oblongisve subacuminatis rigidis subtus præcipue in nervos pubescenti-tomentosis, pedunculis axillaribus bi-trifloris, bracteis 4, 2 ext. ovatis, int. late obcordatis demum ampliatis pubescentibus, corollis extus basi gibbis, baccis distinctis.—" *Eschsch. in Mém. Act. Soc. Petersb.* 10. *p.* 284." *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 138. *De Cand. Prodr. v.* 4. *p.* 336.

We have kept this distinct from the *L. involucrata* of the Banksian Herbarium, *Xylosteum involucratum* of Dr. Richardson, with considerable hesitation. That our plant is the same with *L. Ledebourii* of Eschscholtz and Chamisso, there can be no question, for it exactly agrees with authentic specimens now before us. These differ from Dr. Scouler's and Mr. Douglas' *L. involucrata*, from the mouth of the Columbia and Puget's Sound, (which is assuredly the same as that of Sir J. Banks, gathered on the same coast, between lat. 56° and 64° North,) solely in their more elongated and straighter branches, their greater degree of pubescence, and the more rigid and wrinkled leaves, usually oblong rather than ovate. Dr. Richardson's plant, and specimens gathered by Mr. Drummond in the Rocky Mountains, between lat. 42° and 46°, are in every respect similar to those of Dr. Scouler and Mr. Douglas, only that the leaves are still less pubescent, and more membranaceous and flaccid: and the *L. involucrata* of Bot. Reg. t. 1179, is equally characteristic of both these. In our plant, and probably in the *L. involucrata* also, the two inner bracteæ are hardly visible till the fruit advances to maturity, when they become remarkably large and enclose the fruit.

1. Symphoricarpus *racemosus. Mich. Fl. Bor. Am. v.* 1. *p.* 107. *De Cand. Prodr. v.* 4. *p.* 339.—Symphoria racemosa. *Pursh, Fl. Am. v.* 1. *p.* 162. *Sims, in Bot. Mag. t.* 2211.

This is likewise gathered, by Mr. Douglas and Dr. Scouler, at the mouth of the Columbia, and likewise at Nootka.

ORD. XXIII. RUBIACEÆ. *Juss.*

1. Galium ——— ?

Of this genus, or of *Rubia*, there are two species, much branched, and with rather small oval leaves, but with only imperfect flowers, and no fruit: we dare not endeavour to discriminate them.

ORD. XXIV. ERICEÆ. *Juss.*

1. Arbutus *Menziesii;* arborescens, foliis lato-ovalibus integerrimis glabris, petiolis longis, racemis axillaribus et terminalibus paniculatis densifloris. *Pursh, Fl. Am. v.* 1. *p.* 282.

We refer a very indifferent and solitary specimen of a supposed *Arbutus* to the *A. Menziesii* of Pursh, although we only know his plant from the short character above quoted. Ours is a branch, 7-8 inches long, waved, and as thick as a swan's quill, with excessively hard wood, and having a glabrous, slightly wrinkled, ferruginous surface, from which, however, it appears that a coarse bark has peeled or scaled off. The *petioles* are an inch or more long; the *leaves* 3-4 inches long, oval or elliptic, obtuse at the base and the extremity, coriaceous, almost black (in the dry state,) quite entire, glabrous, pale, and apparently glaucous beneath, with innumerable reticulated, and slightly prominent, rather dark-coloured veins. The *racemes* are in *fruit*, and in that state the bark has in a great measure peeled off. *Berries* about the size of peas, black, the integument areolated, or cracked into a number of small scales. *Seeds* many.—Mr. Collie had named the specimen "*Arbor ferruginea*," from which it may be inferred that the stems and branches, and probably the leaves below, are of a rusty colour. We regret much that we can give no better account of this fine arborescent Arbutus.

2. Arbutus *tomentosa;* fruticosa, ramis angulatis foliisque cordatis pungenti-acutis coriaceis pubescentibus vel glabris, petiolis brevibus, racemis subcapitatis terminalibus bracteatis, bracteis inferioribus longitudine fere florum, corollis urceolatis, calycibus glabris ciliatis obtusis. *Pursh, Fl. Am. v.* 1. *p.* 282.

Of this we have several varieties, differing, however, almost solely in the pubescence.—Var. α., the original plant from Mr. Menzies, and from which Mr. Pursh drew up his character, has the whole specimen, except the flowers, very downy, especially on the underside of the upper leaves and young branches; and these latter, and the petioles, and lower part of the costa beneath, have numerous long rigid hairs mixed with the pubescence, so as to give the plant a remarkably hispid appearance. This is from the Columbia.—Var. β. is destitute of long rigid hairs; but has the pubescence on the young stems and young leaves still copious, as is the case with some of Mr. Menzies' specimens, which have no more particular locality than North-West Coast of America, and with some in Captain Beechey's Herbarium.—Var. β., with the branches slightly pubescent, and the leaves almost entirely so, except the petioles and the base of the costa beneath; and var. 4, with the stems and leaves perfectly glabrous: both these we have from San Francisco, in California; the former is in the present Collection, and the latter we received from Dr. Fischer, marked "*Arbutus Menziesii?*"—In all, the foliage, in a dry state, is of a singularly pale green colour, remarkably coriaceous, and marked with copious but minute reticulations.

3. Arbutus *pungens;* fruticosa, ramis prostratis subpubescentibus, foliis petiolatis perennantibus ovalibus obovatisve coriaceis nitidis minute reticulatis pungenti-mucronatis glabriusculis tenui-marginatis subintegerrimis, racemis terminalibus brevibus, floribus bracteatis.

Habit of *Arbutus Uva Ursi,* and with leaves of the same size, but sufficiently distinct, being broader, upon longer petioles, often quite obtuse, or even retuse at the base, downy with a whitish pubescence except the oldest, more or less serrated, and always terminated by a very sharp pungent point. *Flowers* small, urceolate.

ORD. XXV. VACCINIEÆ. *De Cand.*

1. Vaccinium *ovatum;* erectum, valde ramosum, ramis pubescenti-hirsutis, foliis perennantibus oblongo-ovatis coriaceis nitidis breve petiolatis marginibus revolutis serratis, petiolis hirsutis, racemis axillaribus terminalibusque brevibus, floribus cylindraceo-campanulatis bracteatis, calycibus acutis.

This, in its foliage, almost exactly resembles the *Arbutus mucronata* of the Straits of Magellan, but the flowers are racemose, and truly those of a *Vaccinium.* It was first detected by Mr. Menzies, and afterwards, according to Mr. Pursh, found by M. Lewis on the Columbia.

Ord. XXVI. COMPOSITÆ. *Juss.*

1. Borkhausia *Lessingii;* radice perenni multicipi, caule scapiformi glabro simplici unifloro, foliis glabris anguste linearibus pinnatifidis laciniis brevibus remotis, involucri foliolis planis obtusiusculis margine scariosis extus hirsutiusculis.—Troximon apargioides. *Lessing in Linnæa, v.* 6. *p.* 501.

This is certainly the plant of Lessing, agreeing both with specimens received from him, and now in Dr. Hooker's Herbarium, and with his description; but since in the true species of *Troximon,* the pappus is harsh and persistent, while in our plant, it is soft and very caducous as in *Sonchus,* we have referred it to *Borkhausia,* notwithstanding the different involucrum which most species of that genus possess. The achenia are attenuated into a long beak, which is dilated at the apex, forming a disc for the reception of the pappus and florets. In *Troximon,* although usually described with a sessile pappus, or, in other words, without a beak to the achenium, there is really a short beak, by which, and by the different kind of involucre, that genus seems principally distinguished from *Leontodon.*

1. Lygodesmia *minor. Hook. Fl. Bor. Am. v.* 1. *p.* 295. *t.* 103. *f.* A. (fruct.)

1. Sonchus *oleraceus. Linn.*

1. Eupatorium ——— ?

We have seen but one specimen, and that in a very bad state, presenting only a branch of the inflorescence. The upper part of the stem is herbaceous and quadrangular. The flowers are in panicled corymbs. Involucre of 4 or 5 oblong, obtuse, striated and whitish leaflets, furnished at the base with about as many short scales, similar to the involucre. Flowers very few in each capitulum. Achenia linear, glabrous, with about five angles, formed by as many prominent nerves. Pappus capillary, scabrous at the base, at the apex incrassated and slightly plumose. A detached leaf, probably not belonging to the specimen, accompanied it in the Collection.

1. Madia *viscosa. Cav. Ic. v.* 3. *t.* 298.

Of this there are two varieties in the Collection: α. resembling the figure above quoted; and β. with the leaves not above half-an-inch long and half-a-line wide, disposed copiously along the branches, and somewhat erect. The whole plant is slender and small, scarcely exceeding eight or nine inches, so that probably this variety is caused by growing in a dry and poor soil. In habit it is very different from the common variety.

1. Erigeron *Canadensis. Linn.*

1. Solidago *Canadensis;* caule herbaceo hispido erecto, foliis lanceolatis utrinque attenuatis serratis scabris, racemis paniculatis secundis recurvis, radio abbreviato. *Spr.—Linn.—Spreng. Syst. v.* 3. *p.* 539.

The specimens in the Collection vary, with the leaves oblongo-lanceolate and slightly acuminated, with the stem and leaves nearly glabrous, and with the racemes so contracted as to lose the secund and recurved appearance described above. We, however, possess intermediate forms. The leaves are always more or less conspicuously three-nerved, with a few distant narrow deep serratures, or teeth, which point upwards.

2. Solidago *petiolaris;* caule herbaceo adscendente, foliis obovatis in petiolum decurrentibus serratis, racemis erectis densis, involucri foliolis oblongis appressis, radio discum subsuperante.—*Ait.—Spreng. Syst. v.* 3. *p.* 541. *Lessing in Linnæa, v.* 6. *p.* 502.

Leaves and stem, in one specimen, scabrous, with a short greyish pubescence: in the others, they are almost entirely glabrous.

1. Aster *Californicus;* caule brevi-adscendente piloso vix ramoso, ramis ante apicem aphyllis unifloris, foliis carnosulis spathulatis apice mucronulatis petiolatis glabris hispido-ciliatis, involucri foliolis imbricatis anguste linearibus acuminatis hirsuto-villosis.—*Lessing in Linnæa, v.* 6. *p.* 121.

The ray, judging from the dried specimen, appears to be of a reddish colour. Mr. Menzies detected this plant in California, during the voyage of Captain Vancouver.

2. Aster *spectabilis;* radice bienni? caule ramoso inferne glabro ad medium linea duplici piloso sursum hirsutiusculo, foliis oblongo-lanceolatis glabris basi auriculato-amplexicaulibus margine scabris inferioribus præcipue medio serratis, involucri foliolis oblongis acutiusculis. —*Ait.?—Spreng. Syst. v.* 3. *p.* 538?

The leaflets of the involucre are probably squarrose, although they do not present that appearance in the dried plant, whence arise our doubts; but as in this very difficult genus, it is almost impossible to describe in words the slight differences between the species, and as neither figures nor authentic specimens are accessible for the purposes of elucidation, it is not unlikely that the present may either prove to be a new species, or something very distinct from Aiton's plant.

3. Aster? *filaginifolius;* caule ramoso, ramis divaricato-patentibus gracilibus fragilibus lanuginosis ramulis ultimis unifloris elongatis, foliis distantibus oblongo-spathulatis mucronulatis basi attenuatis venosis dense subtus præcipue breviter albido-lanatis, involucri foliolis glabris oblongo-lanceolatis margine membranaceis, stigmatibus apice aspergilliformibus, flosculis radii neutris.

The only species to which this approaches is *Aster sericeus,* Vent.; but whether, like it, the stems are shrubby, the specimen before us can scarcely permit us to say: we think they are. The floccose tomentum on the stem and branches is easily rubbed off. Upper leaves entire; lower ones probably furnished with a few sharp serratures near their apex, at least one or two of the lower ones on the specimen in the Collection are so. Florets of the ray emarginate, and neuter. Stigmas of the disc exserted, furnished about their extremity with a conspicuous tuft of hairs; which double character seems to remove this plant from *Aster.* Pappus brown, scabrous. A fragment of another allied, but certainly different species, exists in the Collection, which may be characterised as follows:—

4. Aster? *tomentellus;* caule fruticoso ramoso, ramulis divergentibus lanuginosis elongatis versus apicem paucifloris, foliis subappressis approximatis lineari-oblongis rigide mucronatis utrinque albido-lanatis, pedunculis breviusculis bracteatis, involucri foliolis oblongo-spathulatis laxis apice tomentosis, stigmatibus apice aspergilliformibus, flosculis radii neutris.

1. Aplopappus *ericoides;* fruticulosus, ramosus, ramis apice pedunculos paucos bracteatos unifloros gerentibus, foliis acerosis teretibus divaricatis pubescentibus in axillis ramulos abortivos foliatos foventibus, involucri foliolis glabriusculis ciliatis, pappi serie exteriore dimidio breviore.—Diplopappus ericoides. *Less. in Linn. v.* 6. *p.* 117.

We retain the genus *Aplopappus* of Cassini, for those species of Lessing's extended *Diplopappus* which have the exterior row of the pappus similar to, and frequently as long as, the inner series. To this, probably, *Chrysopsis divaricata* of Nuttall belongs.

2. Aplopappus *squarrosus;* fruticosus, ramosus, ramis pubescenti-hirsutis, foliis semiamplexicaulibus patentibus obovalibus glabris rigidis resinosis serratis, serraturis apice mucronatis recurvis, capitulis florum versus apicem ramorum axillaribus subsessilibus, involucri campanulati foliolis foliaceis squarrosis, pappi serie exteriore dimidio breviore.

Nearly allied to *Baccharis mucronata* of this work, (p. 30,) which, from an examination of better materials, we have now ascertained to belong to the present genus, along with many other Chilian supposed species of *Baccharis.*

1. Diplopappus *villosus;* subdecumbens, hirsute villosus, caule ramoso, ramis subcorymbosis, foliis sessilibus integerrimis lineari-oblongis subspathulatis acutis margine scabris inferne ciliatis, floribus fastigiatis. *Nutt.*—Chrysopsis villosa. *Nutt. Gen. v.* 2. *p.* 151.—Amellus villosa. *Pursh.*

The only specimen in the Collection agrees with Nuttall's specific character. *Diplostephium* of Kunth, and *Chrysopsis* of Nuttall, are synonymous with *Diplopappus* of Cassini.

1. Grindelia *squarrosa;* glaberrima, caule herbaceo, ramis breviusculis corymbosis, foliis anguste oblongis amplexicaulibus serratis, involucri glabri squamis apice angustis squarrosis.—*Dun.*—Donia squarrosa. *Pursh, Fl. Bor. Am. v.* 2. *p.* 559. *Bot. Mag. t.* 1706.

α. Folia punctis glutinosis micantibus conspersa.

β. Folia subintegerrima carnosula opaca.

Although we do not consider these two varieties as distinct species, yet it must be confessed their aspect is very different. Our second variety has quite that peculiar appearance which many plants assume which grow on the sea-shore; but we are ignorant if this be its true locality. Most authors unite this species with *G. inuloides,* Willd.; and if they be correct, then the following species stands in a similar situation, for it is in many points intermediate between the two others.

2. Grindelia *hirsutula;* pilis albidis hirsutula, caule cæspitoso herbaceo parce ramoso, ramis elongatis unifloris, foliis angusto-oblongis subamplexicaulibus serratis, involucri pubescentis squamis lineari-lanceolatis basi appressis apice subsquarrosis.

Very closely allied to *G. angustifolia,* Kunth, (not Dunal,) but that species appears to have always a simple stem. This differs from the preceding, by the hairs that are found on its stem, leaves, and involucre, and by the long one-flowered branches.

3. Grindelia *humilis;* glabra, caule herbaceo simplici unifloro, foliis radicalibus linearibus obtusis basi attenuatis caulinis sessilibus inferioribus angustissime linearibus superioribus subulatis bracteiformibus, involucri foliolis lineari-lanceolatis apice squarrosis.

The only specimen in the Collection is about eight inches high, and is very unlike any of the other species. The cauline leaves decrease gradually upwards, resembling subulate bracteæ. On this plant Messrs. Lay and Collie remark:—"folia recentia lineari-spathulata, antiquiora oblonga basi dilatata spinuloso-dentata;" the latter kind of leaves we have not seen.

1. Baccharis *glutinosa;* fruticosa, foliis anguste lanceolatis basi in petiolum attenuatis argute remote serratis 3-plinerviis subtus excavato-punctatis, corymbis terminalibus, involucri foliolis margine laceris, achenio scabro.—*Pers.*—Molina salicifolia. *Ruiz et Pav. Syst. p.* 210?

Perhaps *B. salicifolia,* Pers., is not distinct, but then Sprengel unites to it *B. gnidiifolia,* Kunth, of which plant the leaves are described as sessile, and not attenuated into a kind of petiole at their base, as in ours. Chamisso does not appear to have met with this species; but Lessing (Linnæa, v. 6. p. 505,) mentions having found *B. linearis,* which is surely distinct, otherwise we might have supposed that Lessing and we had the same plant in view. We can perceive only one series of hairs of the pappus.

2. Baccharis *glomeruliflora;* fruticosa, foliis approximatis obsolete trinervibus obovatis

basi cuneatis apice grosse dentatis, capitulis terminalibus solitariis vel subtribus in spicas glomeruliformes axillares digestis, involucri foliolis glabris apice fimbriatis, achenio oblongo glaberrimo pluri-costato.—*Mich.—Pursh, Fl. Bor. Am. v.* 2. *p.* 523.

There are two very distinct states of this plant, which we had almost supposed to be different species; but Lessing, whose authority is doubtless high, as he appears to have seen numerous specimens, describes both without distinguishing them even as varieties. In one, the heads of flowers are collected usually by threes, into short compact spikes or racemes, which are almost invariably axillary. In the other, the inflorescence is more lax, and the heads of flowers are constantly solitary and terminal. Neither in the involucre, achenium, pappus, nor leaves, is there any difference. It was found also by Mr. Menzies, on the coast of California.

1. Xanthium *Canadense. Mill.*—X. maculatum. *Raf. in Sill. Journ.*—X. orientale. *Linn. fil.*

The fruit of this species is larger than that of *X. strumarium*, and the two beaks to it are slightly incurved at the apex, while in *X. strumarium* they are nearly straight. Whether these be sufficiently good characters, we are inclined to doubt, but have not been able to discover any others. We presume it is the *X. strumarium* of Pursh, Nuttall, Elliott, and other North-American Botanists, and indeed we have seen no other from North America.

1. Ambrosia *artemisiæfolia;* caule hirsuto, foliis bipinnatifidis subtus canescentibus laciniis sinuato-dentatis obtusiusculis, racemis terminalibus ternis aggregatis. *Linn.—Pursh, Fl. Bor. Am. v.* 2. *p.* 581.—A. absinthiifolia. *Mich. Am. v.* 2. *p.* 283.

The spines of the fruit are short and strong.

1. Franseria *Chamissonis;* hirsuto-incana, caule decumbente herbaceo, foliis confertis rotundato-ellipticis integris bipinnatisectisve segmentis divergentibus obtusis, petiolis planis, capitulis masculis cernuis fœmineis erectis.—*Lessing in Linnæa, v.* 6. *p.* 507.

The solitary and most imperfect specimen of this plant in the Collection, we have compared with one received from Chamisso. The leaves seem very variable.

1. Bidens *chrysanthemoides;* foliis lanceolatis elongatis acuminatis connatis remote serratis glabris, floribus longe radiatis cernuis, involucri foliolis exterioribus foliaceis interioribus longioribus.—*Mich. Am. v.* 2. *p.* 136.

1. Tridax? *galardioides;* hispido-pilosus, foliis alternis sessilibus lineari-lanceolatis inferioribus pinnatifidis.

Caulis herbaceus, decumbens, patentim hispido-pilosus, ramosus; *rami* subelongati, usque ad apicem parce foliosi, capitulum unicum terminalem gerentes. *Folia* lineari-lanceolata, alterna; *inferiora* pinnatifida, segmentis brevibus, obtusis, patentibus, *superiora* integra omnia hispide pilosa. *Involucrum* hemisphæricum, simplex, polyphyllum: *foliola* oblonga, acuta, basin florum radii eorumque achenia involventia. *Corollæ radii* luteæ, basi attenuatæ, apice explanatæ, planæ, trifidæ, stylum absque staminibus gerentes: *disci* tubulosæ, luteæ. *Paleæ* lineari-oblongæ, submembranaceæ, pluriseriales, inter radii discique flores interjectæ, *receptaculo* plano alioquin nudo. *Antheræ* purpurascentes, ecaudatæ. *Styli* rami recurvati, appendiculis linearibus puberulis superati. *Achenia* (juniora) oblonga, erostrata, basi attenuata; *radii* glabra, apice calva; *disci* pilosa; *pappo* persistente rigido basi plumoso apice simplici.

If this were to form a new genus, we would propose the name of LAYIA, after one of the discoverers; and this would principally differ from *Tridax* or *Balbisia*, by the shape of the involucre, its consisting of numerous leaves, which are opposite to, and are respectively wrapt round, the achenia and tube of the corolla of the radical florets; by the marginal achenia without pappus, and by the imperfect manner in which the receptacle is provided with scales: indeed it is difficult to say if these in the present case ought not to be viewed as an inner series of involucral leaves, to which some of them bear a close resemblance in colour and texture. In *Tridax procumbens*, the leaves of the involucre do not surround the achenia, and the marginal achenia have a pappus precisely the same as those of the disc, and similar to what we have above described in our plant. Only one specimen, and that far from a good one, exists in the Collection: the inflorescence so resembles a *Galardia*, that had we not examined it minutely, we should have placed it in that genus.

1. Helianthus *longifolius;* herbaceus, foliis alternis oblongo-lanceolatis basi in petiolum planum longe attenuatis integerrimis flaccidis penninerviis utrinque glabris margine ciliato-scabris, involucri foliolis subæqualibus discum superantibus spathulato-oblongis appressis margine hispido-ciliatis, pappi aristis solitariis vel binis inæqualibus validis.—*Hook. Fl. Bor. Am. v.* 1. *p.* 313.

This appears to be a true species of the genus, but the leaves are more like those of a *Rudbeckia:* these, particularly the lower ones, are about five inches long, and much attenuated at the base into a flat petiole, which is about three inches in length. In the upper ones the limb is longer, while the petiole is shorter. In Mr. Douglas's specimen from the Columbia, the leaves are decidedly glutinous, as if varnished.

1. Bahia *artemisiæfolia;* foliis alternis sessilibus profunde pinnatifidis subtus niveo-tomentosis margine revolutis, capitulis fasciculatis, involucris 9-phyllis 1-serialibus cylindraceis, floribus radii lingulatis.—*Lessing in Linnæa, v.* 5. *p.* 160, *et v.* 6. *p.* 253.

The above character applies to the usual state of the plant; but sometimes the leaves are either quite entire, or they present one, or at most two, short lobes or segments at the side, about the middle. We much suspect that in this state it may become the *Eriophyllum stæchadifolium* of Lagasca. All the florets are fertile: those of the ray are without stamens, and usually about six in number. Leaves of the involucre at first tomentose, but afterwards becoming often quite glabrous. Achenia with four or five angles, or projecting ridges, somewhat hispid. Scales of the pappus eight or ten, unequal, linear, obtuse and striated, about one-fourth of the length of the achenium. Between *Eriophyllum* of Lagasca, to which Mr. Lindley has united *Trichophyllum* of Nuttall, and *Bahia*, there appears to be almost no difference: indeed, the only character pointed out by Lessing consists in the paleæ of the pappus being unequal, linear, and truncated in *Bahia*, and equal, obtuse, and narrowest at the base in the other genus. In the present individual, the paleæ are not, as Lessing says, truncate, but rounded at the apex: while, on the other hand, those of *Trichophyllum* appear sometimes truncated and lacerated. Nor does their attenuation below, or their equality, prove a good character, since in our specimens of what we consider *Bahia ambrosioides*, from Chili, (the only species we have received from that country, and which consequently is the type of Lagasca's genus *Bahia*,) the paleæ are short, equal, obtuse, not truncate, and narrower at their base than at the apex. *Bahia artemisiæfolia* was first discovered by Mr. Menzies, in California.

1. Helenium *pubescens;* herbaceum, puberulum, caule ramoso alato, foliis alternis oblongis inferioribus obtusis superioribus acuminatis decurrentibus pellucido-punctatis integerrimis, capitulis solitariis in ramis longe ante apicem aphyllis, involucro polyphyllo *reflexo* discum superante, receptaculo subgloboso, radii flosculis lingulatis trilobis pellucido-punctatis.—Helenium pubescens. *Ait.?*—Cephalophora decurrens. *Lessing in Linnæa, v.* 6. *p.* 517.

Lessing appears entirely to have overlooked the marginal series of scales on the receptacle, which constitutes this a *Helenium*, as its habit indicates, and not a *Cephalophora* or *Actinella*. From *H. quadridentatum* it differs by the shape of the receptacle, and from *H. autumnale* by the leaves, which we have always found entire, and by the much smaller ray, as well as by the long simple one-flowered branches, like those of *H. quadridentatum*.

1. Spilanthes *pseudo-acmella. Linn.?*

Of this there is only one, and that a very imperfect specimen, in the Collection.

1. Achillea *Millefolium. Linn.*

Chamisso appears only to have found *A. magna,* (with which Lessing unites *A. lanata,* Spr.) but specimens, gathered by Messrs. Lay and Collie, appear in no respect distinct from *A. Millefolium,* and certainly do not accord with what we possess in our Herbaria as *A. magna.*

1. Coinogyne *carnosa. Lessing in Linnæa, v.* 6. *p.* 521.

As this genus is peculiar to California, and only lately constituted, we extract the following character :—Coinogyne; *Involucrum* cylindraceum pauciseriale, foliolis obtusissimis margine scariosis, inferioribus brevioribus. *Receptaculum* conicum nudum. *Flores* disci tubulosi hermaphroditi; radii lingulati fœminei. *Antheræ* ecaudatæ. *Achenia* calva. *Stylus* ramis cono superatis.—All the plant is fleshy. The leaves are decussated, lingulate, very entire, united at the base into a sheath about a line long. The genus approaches most in character to *Chrysanthemum,* but the branches of the style in this last are truncate. Lessing compares its appearance with *Kleinia suffruticosa.* There is but one specimen in the collection.

1. Artemisia *Californica;* fruticosa, ramosa, foliis gemmuliferis approximatis pubescenti-incanis pinnatisectis segmentis angustissime linearibus obtusis, superioribus sensim integris, racemo subsecundo, capitulis cernuis brevissime pedicellatis, involucro subgloboso, foliolis obtusis margine late scariosis glabriusculis, receptaculo nudo, corollis glabris.—*Lessing in Linnæa, v.* 6. *p.* 523.

Allied both to *A. Santonica* and *A. herbacea:* the above character will readily distinguish it from both.

2. Artemisia *inodora;* herbacea, foliis glabris radicalibus subtrifidis, caulinis lanceolatis utrinque attenuatis margine incrassatis integerrimis, floribus pedunculatis erectis, involucri foliolis margine scariosis. *Spr.—Willd. En.*

Our specimens, though imperfect, seem to accord with the above character; but the species is perhaps too nearly allied to *A. Dracunculus.*

3. Artemisia *integrifolia;* herbacea, foliis inferioribus trifidis superioribus integris lanceolatis acuminatis subtus tomentosis, racemis axillaribus erectis, capitulis subsecundis pedicellatis, involucro campanulato, receptaculo nudo.—*Linn.—Willd. Sp. Pl. v.* 3. *p.* 1846.

This species seems scarcely to differ from some states of *A. vulgaris.* The *A. longifolia* of Nuttall appears to be distinct.

1. Antennaria *margaritacea. Brown.*—Gnaphalium margaritaceum. *Linn.*

1. Gnaphalium *Sprengelii;* herbaceum, foliis utrinque albido-lanatis, inferioribus spathulatis superioribus linearibus ramialibus basi subdecurrentibus, corymbis axillaribus terminalibusque glomeratis pedunculatis paucifloris, involucri fuscescenti-argentei foliolis oblongis acutiusculis nitidis.—G. Chilense. *Spreng. Syst. v.* 3. *p.* 480.—*Lessing in Linnæa, v.* 6. *p.* 525.

When describing the Chilian species in this work, (p. 31,) we were led to suppose that what we then called *G. Chilense* might, notwithstanding the great difference in the characters, be the plant of Sprengel. In the sixth volume of the Linnæa, however, at p. 227, Lessing describes Chamisso's plant, and from his description it is obvious that what we have called *G. Chilense,* is *G. falcatum,* Lam.: while he unites Sprengel's *G.*

Chilense to *G. Piravira*, Mol., which is the same as our *G. citrinum*, a name that of course must yield to that of Molina's, although we are yet ignorant where it is published. When Lessing referred hither the *G. Chilense*, he must have trusted a little to Sprengel's character, as we did, for no other plant of Chamisso, from whom Sprengel had it, approached more closely. At p. 260, Lessing informs us that he had overlooked a packet, the description of which would form a supplement. Among these he adopts the *G. Chilense*, Spr., from California, and although, perhaps inadvertently, he refers to the former part, where he united it to *G. Piravira*, yet he now adopts the name from Sprengel; contrasting which with the character given by that author, we have now no doubt of the present being what he intended; and as it is not a Chilian, but a Californian plant, we have considered it necessary to change the specific name. To *G. lanuginosum*, Kunth, it is very closely allied; but although Sprengel unites them, we consider the leaflets of the involucre "argute acuta fuscescenti-virescentia" of the latter, may keep it distinct. Sprengel places this plant erroneously among the "Filagines," but it is much more nearly allied to *G. polycephalum*, and particularly to *G. decurrens*. We may here remark, in addition to the two Chilian species already noticed, and described at p. 31, that our *G. ulophyllum* coincides with Lessing's *G. Indicum*, and *G. coarctatum* with his *G. stachydifolium*.

2. Gnaphalium *decurrens;* caule herbaceo lanato, foliis lineari-lanceolatis acuminatis decurrentibus supra scabriusculo-puberulis subtus albo-lanatis, corymbis paniculatis glomeratis paucifloris, involucri foliolis oblongis acutis argenteis nitidis.—*Ives, in Sillim. Amer. Journ.—Spreng. Syst. v.* 3. *p.* 478. *Lessing in Linnæa, v.* 6. *p.* 525.

In the specimens before us, the leaves are narrower than in those we possess from the United States, and the panicle more destitute of foliage, but we can see scarcely any other difference. The woolly coat on the underside of the leaves is subject to be rubbed off. The Californian state approaches very nearly to *G. Sprengelii*, above described, from which it principally differs by the leaves not being cottony on both sides.

3. Gnaphalium *luteo-album. Linn.*

This was also found at California by Mr. Menzies, and it extends as far north as Nootka Sound.

Ord. XXVII. CONVOLVULACEÆ. *Juss.*

1. Ipomæa *sagittifolia;* glaberrima, caule volubili, foliis sagittato-hastatis sinu profundo auriculis acutis, pedunculis sub flore incrassatis supra medium bracteolas duas lineares gerentibus, calycibus obtusis, limbo corollæ integerrimo.—*Pursh, Fl. Am. v.* 1. *p.* 144.—Convolvulus sagittifolius. *Mich. Am. v.* 1. *p.* 138.—C. speciosus. *Walt.*

The style is bifid; stigmas two, globose and white; so that this is not a *Convolvulus*, as defined by Brown, but an *Ipomæa*.

1. Calystegia *sepium. Brown.—Pursh, v.* 1. *p.* 142.—Convolvulus sepium. *Linn.*—C. repens. *Linn.—Mich.*

Ord. XXVIII. POLEMONIDEÆ. *Juss.*

1. Gilia *squarrosa;* pubescenti-glandulosa, foliis bracteisque pinnatifidis laciniis incisis subulatis pungentibus, floribus glomeratis. *Hook.*—G. pungens. *Douglas, MSS. in Bot. Mag. t.* 2977, (anno 1830.)—Hoitzia squarrosa. *Eschcholtz, in Mem. Acad. Imp. St. Petersb. v.* 10, (anno 1826.) *p.* 283, *et in Linnæa*, 1828. *Litter. p.* 147.

At the time Dr. Hooker published this species in the Botanical Magazine, he was not aware of a specific name being already given to it by Eschcholtz, which, however, has the claim of priority. Messrs. Lay and Collie appear to have found it about Monterey, Mr. Douglas near the source of the Multnomack River, one

of the southern branches of the Columbia. Eschscholtz describes the stem as biennial, and suffruticose; but the latter term is probably only applied to mark the rigidity of that part; in our gardens it appears to be annual.

ORD. XXIX. BORAGINEÆ. *Juss.*

1. Myosotis *Chorisiana;* biennis, subcæspitosa, caulibus adscendentibus subsimplicibus, foliis linearibus, racemis inferne foliosis, pedunculis folio plus dimidio brevioribus, calyce 5-partito laciniis lanceolatis acutis sub fructificatione patulis, tubo adpresse strigoso-piloso, nucibus rugosis.—*Chamisso in Linnæa, v.* 4. *p.* 444.

This species approaches in some points to *M. nana*, Vill., *M. clavata*, Ledeb., and *M. humilis*, Ruiz and Pavon; but it differs from them all.

1. Cynoglossum *officinale. Linn.*

1. Heliotropium *Curassavicum. Linn.*

ORD. XXX. HYDROPHYLLEÆ. *Br.*

1. Nemophila *Menziesii;* foliis omnibus pinnatifidis scabris segmentis approximatis ovatis obtusis ciliatis subtridentato-lobatis, pedunculis oppositifoliis folio duplo longioribus, segmentis calycinis lanceolatis accessoriis minutis.

Allied to *N. phaceloides* of Barton; but a much smaller plant in every respect; and the peduncle is also considerably longer in proportion. The leaves are precisely those of *N. parviflora*, a species found by Dr. Scouler and Mr. Douglas on the Columbia River; but in that individual the flowers are very small, and the peduncles scarcely so long as the leaf. The species has long existed in Mr. Menzies's Herbarium, and in those of his friends, to whom he liberally communicated specimens. Mr. Collie remarks that the capsule is polyspermous.

1. Phacelia *circinnata. Jacq.*—P. Californica. *Cham. in Linnæa, v.* 4. *p.* 494.—P. Peruviana. *Cham. l. c.*

We cannot agree with Chamisso that there are sufficient characters to separate the above synonyms, indeed from Chili we have received intermediate states. Pursh's character of his *P. heterophylla* applies equally to our plant.

ORD. XXXI. SOLANEÆ. *Juss.*

1. Solanum *nigrum*, var. *Virginicum. Linn.*—S. pterocaule. *Dun. Sol. v.* 1. *p.* 153.

Of this there are two states in the Collection; one with the leaves glabrous, the other with them more or less puberulous beneath. In both, the angles of the stem are rough, or almost prickly.

2. Solanum *umbelliferum;* incano-puberulum, caule suffruticoso, foliis petiolatis ovatis subacutis integerrimis, racemo umbellato terminali paucifloro, calyce urceolato quinquefido laciniis acutis, corolla calyce triplo longiore quinquefida.—*Eschscholtz, in Mem. Acad. Imp. St. Petersb. v.* 10. *p.* 286. *et in Linnæa, v.* 4. *Litter. p.* 148.

In addition to the character given by Eschscholtz, we may remark that the stamens are distinct, the filaments very short, and broadest at the base. Style straight. Stigma slightly capitate. Before the corolla is fully expanded, it appears campanulate, as in *Atropa*, with which genus the present individual has considerable affinity. The anthers are, however, furnished with two pores, or rather clefts, at their apex; but in some flowers, these pores showed a tendency to split downwards to the base of the anther.

1. Nicotiana *rustica. Linn.*

1. Salpiglossis? *prostrata;* sparsim glanduloso-puberula, caule prostrato ramoso, foliis oblongo-spathulatis integris, pedunculis axillaribus unifloris folio multoties brevioribus.

Radix cæspitosa, perennis? *Caules* prostrati, teretes, filiformes, ramos oppositos alternosve subsimplices utrinque emittentes, glanduloso-pulveruli. *Folia* anguste oblonga, obtusa, basi longe attenuata, glandulosa, puberula, subenervia, parva, vix semiunciam longa. *Pedunculi* axillares, solitarii, uniflori, breves, semilineam longi. *Calyx* puberulus, quinquefidus, sinubus latis; laciniæ elongatæ, foliaceæ, lineari-oblongæ, obtusæ: tubus campanulatus, laciniis duplo brevior, e sepalis dorso viridibus margine membranaceis constans. *Corolla* purpurascens, tenera, marcescens, puberula, calycem paullum superans, infundibuliformis, irregulariter quinqueloba. *Stamina* quatuor, fertilia, glabra, duo longiora, cum quinto interdum fertili sæpiusve sterili: *Antheræ* cordato-subrotundæ, longitudinaliter dehiscentes. *Stylus* glaber, versus apicem crassior; *Stigma* subpeltatum, planiusculum, medio linea exaratum. *Capsula* ovata, bilocularis, bivalvis, valvis apice subbifidis, dissepimentum a valvis demum liberum utrinque placentiferum: placenta planiuscula. *Semina* minuta, numerosa, subrotunda, scrobiculata. *Albumen* carnosum. *Embryo* teres, læviter curvatus, albus, longitudine fere seminis, centralis; radicula ad hilum spectans: cotyledones marginibus ad embryonis flexuram, ideoque accumbentes.

This certainly belongs to the same genus as *S. linearis* and *S. integrifolia.* Hook. Bot. Mag. t. 3113; but they differ from the other of the Chilian species by the foliaceous lobes of the calyx, thereby approaching *Petunia* and *Nierembergia*: indeed, the latter of these two species is *Nierembergia phœnicea* of Don, while the former appears to be *N. intermedia*, Graham, in Ed. N. Phil. Journ. n. 27. p. 175. From *Nierembergia*, even although it be united with *Petunia*, as Don proposes, these plants appear distinct by the inflated tube of the corolla, which has scarcely any limb. *Lindernia Montividensis,* Spreng. Syst. v. 2. p. 769, of which Chamisso and Schlechtendal remark, (Linnæa, v. 3. p. 24,) "planta e Solanearum ordine, *Nierembergiæ* affinis," is scarcely distinguishable from the present individual.

ORD. XXXII. SCROPHULARINEÆ. *Juss.*

1. Scoparia *dulcis. Linn.*

1. Linaria *Canadensis. Spr.*—Antirrhinum *Canadense. Linn.*

1. Scrophularia *Californica;* caule acutangulo glabro parte florifero glanduloso-pubescente, foliis oblongo-triangularibus acutis basi cordatis duplicato-serratis supra glabris subtus parce glanduloso-pubescentibus penninerviis, thyrso aphyllo, laciniis calycinis ovatis acutis mucronatis margine angustissime membranaceis, stamine quinto rudimentoso, capsula ovoideo-conica.—*Cham. et Schlecht. in Linnæa, v.* 2. *p.* 585.

As remarked by Chamisso and Schlechtendal, this species approaches very closely to the Europæan *S. nodosa:* according to these authors the affinity is less with *S. Marilandica,* although to us it appears extremely allied to that species. From *S. nodosa,* the shape of the calycine segments and of the capsule will readily distinguish it. Our specimens have no root.

1. Mimulus *guttatus;* glabriusculus, caule quadrangulari basi radicante, foliis inferioribus petiolatis ovato-oblongis obtusis superioribus subsessilibus subrotundo-ovatis basi subcordatis plurinerviis inæqualiter dentatis, pedunculis pubescentibus bractea sessili longioribus, calyce campanulato pubescente corollaque guttatim maculatis. *De Cand. Cat. Hort. Monsp. p.* 127. —M. luteus. *Bot. Mag. t.* 1501.

Although undoubtedly a distinct species from the Chilian *M. luteus,* it is by no means easy to point out a constant distinctive character. In *M. guttatus* the size of the flowers is usually much smaller, the peduncles are pubescent and shorter; but we do not find them so short as to verify the assertion that they are shorter than the bracteas or floral leaves: they are generally shorter than the flower, while in *M. luteus* the lower ones especially are often considerably longer. What Sprengel means, when he says that in the one the peduncles have bracteas, and in no other are ebracteate, we scarcely comprehend.

2. Mimulus *floribundus;* annuus, caule prostrato villoso, foliis bracteisque consimilibus petiolatis cordato-ovatis acutis denticulatis glabris plurinerviis, pedunculis pubescentibus bractea sublongioribus calyce urceolato pubescenti dentibus acutis subæqualibus.—*Lindl. Bot. Reg. t.* 1125.

This quite agrees with Mr. Menzies' original specimens from the same coast.

3. Mimulus *glutinosus;* glutinosus, caule erecto suffruticoso, foliis sessilibus elliptico-oblongis acutiusculis obscure dentatis subtus pubescentibus pedunculis calyce tubuloso duplo brevioribus.—*Willd.*—M. aurantiacus. *Bot. Mag. t.* 354.

1. Castilleja *affinis;* caule herbaceo subsimplici piloso-hispido, foliis lineari-lanceolatis trinerviis pubescentibus integris, floralibus linearibus integris vel (raro) apice dentato-lobatis, floribus inferioribus pedunculatis, calyce florifero tubuloso antice posticeque fisso lobis bifidis segmentis lineari-lanceolatis acutis, corolla calycem superante.

It will be seen from the above character, taken from the Californian specimens, that there are considerable points of difference between them and the *C. pallida* of authors, the *Bartsia pallida* of Michaux. The floral leaves, not dilated, also separate it from *C. lithospermoides* of Kunth. From *C. integrifolia*, Linn. to which it is also allied, the tubular, not ventricose, calyx, during flowering, will keep it distinct.

2. Castilleja *latifolia;* caule subherbaceo ramoso inferne subhirsuto pubescente superne subvilloso, foliis ovato-oblongis obtusis integris dense pubescentibus, floralibus dilatatis cuneatis apice trifidis lobis brevibus obtusis medio latiori, floribus subsessilibus, calyce florifero tubuloso antice postice æqualiter fisso lobis breviter obtuse bidentatis, corollæ tubo calycem æquante.

According to Mr. Collie this is from three to six inches high, and grows in wet sandy places: he mentions that the flowers are in a lax terminal spike; but, with the exception of one specimen, in which the bracteas have fallen away, those in the Collection exhibit a spike which is both short and dense. Chamisso appears to have found in the same place, "in arenosis littoralibus ad portum S. Francisci Novæ Californiæ," a species which surely must be the same with ours, but which he refers to *C. Toluccensis,* H. B. K., owing, perhaps, to his having only seen "serotinas autumni proles." This and the next must belong to the same subgenus or section of *Castilleja* as *Euchroma coccinea,* Nutt. having the same kind of calyx, while *C. affinis* has more the calyx of *Euchroma grandiflora.*

3. Castilleja *foliolosa;* niveo-tomentosa, caule fruticoso ramoso, foliis confertis inferioribus linearibus obtusis superioribus floralibusque divaricato-tripartitis rariusve integris, floribus subsessilibus, calyce florifero tubuloso antice postice æqualiter fisso lobis leviter emarginatis, corollæ tubo calyce breviore.

From two to three feet high, according to Mr. Collie, who found it in a clayey soil, in hilly situations. In some points it approaches to *C. fissifolia,* L. The axils of the leaves are furnished with a tuft of leaves on short abortive branches.

4. Castilleja *ambigua;* pubescens, annua, caulibus plurimis subramosis, foliis sparsis inferioribus lanceolatis obtusis superioribus floralibusque sensim majoribus dilatatis profunde

multifidis, calyce florifero tubuloso subæqualiter fere ad medium quadrifido laciniis subulatis corollæ tubo calycem superante, labio superiori brevi inferiori trilobo lobis lateralibus rotundatis valde concavis intermedio recto mucroniformi.

Bartsia tenuifolia, Pursh, seems closely allied to this species. The lower lip of the corolla is quite at variance with the character at present given of the genus, yet the upper lip, and the whole habit of the plant agrees with it. The upper lip is so short, that when the lower is pressed against it, the two are nearly of the same length. At each side of the central lobe of the lower lip is a small gland, as in several other, if not all the species, of *Castilleja*. The seeds are oblong, acute at each end, and enclosed in a loose reticulated membranous bag, from which, when it is cut, they fall out. Perhaps, however, this bag is the testa.

ORD. XXXIII. LABIATÆ. *Juss.*

1. Thymus *Chamissonis;* caule procumbente ramoso pubescente, foliis petiolatis ovatis obtusis crenatis subtus nervosis glanduloso-punctatis, pedunculis axillaribus solitariis oppositis folio brevioribus basi setaceo-bibracteolatis, calycibus vix bilabiatis intus fauce subnudis fructiferis inflatis dentibus setaceis, corollis calyce duplo longioribus. *Benth. in Linnæa, v.* 6. *p.* 80.

The leaves are almost an inch long, and nearly the same in breadth. The bracteæ in the same specimen are sometimes situated near the middle of the peduncles, hence we have doubts if *T. Douglasii*, Benth. l. c. said by Mr. Bentham to have been also found in California, and only to differ by the broader foliage and different situation of the bracteoles, be really distinct.

1. Mentha *piperita. Linn.—Engl. Bot. t.* 687.

Most probably an introduced plant.

1. Stachys *ajugoides;* caule erecto humili villosissimo, foliis petiolatis oblongis obtusissimis crenatis basi rotundatis pilis subsericeis villosissimis floralibus sessilibus conformibus calyces superantibus, verticillastris sex-floris, bracteis subnullis, calycibus sessilibus campanulatis villosissimis dentibus ovatis brevissime aculeatis, corollæ tubo calycem subduplo superante labiis patentibus superiori oblongo. *Benth. in Linnæa, v.* 6. *p.* 80.

Mr. Bentham farther mentions it to be from three to four inches high. The only specimen in the Collection is about eight inches: it differs slightly from the above character, by the leaves not only being not rounded at the base, but decidedly acute.

2. Stachys *Chamissonis;* caule erecto tetragono angulis pilis rigidis obverse aculeatis, foliis ovatis obtusis crenatis basi cordatis limbo utrinque velutino-lanato, petiolo pilosissimo, floralibus sessilibus ovato-lanceolatis calyce brevioribus, verticillastris sexfloris distantibus, calycibus subsessilibus tubulosis hispido-pilosissimis dentibus ovatis acuminatis subpungentibus, corollæ tubo recto calyce subduplo superante labio superiore villosissimo. *Benth. in Linnæa, v.* 6. *p.* 80.

We have only seen one specimen, which is about two feet high, and nearly simple. There is also a fragment of an allied species in the Collection, too imperfect to be satisfactorily determined: its character, as far as we can draw it up, is as follows:—caule erecto gracili tetragono, angulis pilis rigidis raris reflexis hispidis, foliis supremis ovatis sessilibus floralibus subrotundo-ovatis basi subiter attenuatis omnibus crenato-dentatis dentibus rotundatis mucronulatis, limbo utrinque molliter breve piloso, verticillastris bifloris distantibus, calycibus subsessilibus folio florali triplo brevioribus tubulosis pilosissimis dentibus ovatis acuminatis pungentibus.—This, if new, may be called *S. biflora.*

3. Stachys *coccinea;* caule erecto tetragono obverse piloso hirto, foliis petiolatis superioribus sessilibus cordato-ovatis obtusiusculis grosse crenato-serratis rugosis villosis, verticillastris subaphyllis sexfloris contiguis spicatis, calycibus villosis campanulatis dentibus ovatis acutis pungentibus, corolla calycem duplo superante extus pilosiuscula.—*Jacq.*

The colour of the corolla, in the only one we have seen, does not appear red.

1. Hyptis *polystachya;* caule ramoso aspero, foliis ovatis serratis supra pubescenti-hirtis subtus incanis, fasciculis florum oppositis breviter pedunculatis in spicas axillares terminalesque digestis, bracteis late ovatis mucronatis calyce 5-aristato cylindrico brevioribus.—*H. B. K. Nov. Gen. et Sp. v.* 2. *p.* 321?

The specimens are in bad condition, and only show one or two upper leaves, which may account for the difference between the above character and that given by Kunth.

In addition to the above of this Order, there is a specimen of what may probably be a *Salvia.*

ORD. XXXIV. VERBENACEÆ. *Juss.*

1. Verbena *Caroliniana;* caule diffuso hirsuto quadrangulari foliis cuneato-oblongis inæqualiter serratis scabris, spicis filiformibus paniculatis, calycibus fructiferis campanulatis fructu paullum longioribus bracteam subæquantibus.—*Linn.*—V. biserrata. *H. B. K?*

That *V. biserrata* is the same with *V. Caroliniana,* as is stated by Sprengel, is rendered probable by there existing a specimen, found by Humboldt, in Willdenow's Herbarium: the habitat, however, attached to it, according to Schlechtendal and Chamisso, (Linnæa, v. 5. p. 98,) being "Mora in Mexico," applies more strictly to *V. veronicæfolia,* which seems to differ from the true *V. Caroliniana* by the roundish stems.

2. Verbena *lasiostachys;* caule diffuso hirsuto quadrangulari, foliis cuneato-ovatis subincisis duplicato-serratis scabris, spicis filiformibus axillaribus terminalibusque, calycibus patentim pilosis fructiferis conicis attenuatis fructum plus duplo excedentibus bractea hirta longioribus.—*Link?*

Link's character, as given in Sprengel, is too imperfect to enable us to determine whether our plant be the same as his; both are from California. In some points ours approaches to *V. canescens.* H. B. K.

ORD. XXXV. PRIMULACEÆ. *Vent.*

1. Anagallis *arvensis. Linn.*

ORD. XXXVI. PLUMBAGINEÆ. *Juss.*

1. Statice *Limonium. L.*—var.—S. Caroliniana. *Walt.*—*Pursh.*

ORD. XXXVII. PLANTAGINEÆ. *Juss.*

1. Plantago *Camtchatica;* foliis oblongis 5-nerviis glabris remote denticulatis in petiolum attenuatis, pedunculis teretibus firmis striatis, spica cylindrica villosa basi laxa, bracteis ovatis, sepalis ovato-rotundatis, corollæ lobis lanceolatis acutis argenteis, capsula ovoidea calyce duplo longiore biloculari, loculis biovulatis 1–2-spermis.—P. Camtschatica. *Link. En. Hort. Berol. p.* 120. *Rapin, Plantag. p.* 17.

The above character, taken from the specimen before us, shows the slight differences between it and the plant found by Chamisso, its original discoverer.

2. Plantago *major. Linn.*

Specimen in a very poor state.

ORD. XXXVIII. NYCTAGINEÆ. *Juss.*

1. Abronia *umbellata;* foliis oblongis glabris, involucro persistente 5–6-phyllo multifloro, perianthii (rosei) tubo elongato limbo laciniis bilobis, staminibus inæqualibus inclusis.—*Lam. Ill. t.* 105.—*Hook. Exot. Fl. t.* 194.—Tricratus admirablis. *L'Herit.—Willd.—Spr.*

The figure in the Exotic Flora does not represent the two-lobed segments of the limb of the perianth. Two other species are found along with this in the sands of the sea-shore in California, both of which, however, have yellowish flowers: the one is *A. latifolia*, Eschsch.; foliis latis subovatis obtusis basi acutis, involucro 2–3-phyllo paucifloro.—The other is *A. arenaria*, Menz.; foliis late cordatis, involucro 5-phyllo multifloro, perianthii limbi laciniis rotundatis undulatis. All the three have glabrous leaves, a persistent involucre, an elongated tube to the perianth, and the stamens unequal in length, and included within its tube: by which they form a distinct section from *A. parviflora*, H. B. K., where the involucre is deciduous, the tube of the perianth short, the stamens equal in length, and exserted. It is to be regretted, that Eschscholtz has not given more detailed characters of his *A. latifolia;* for with the exception of the colour of the flowers, there being few within the involucre, and the greater breadth of the leaves, which, however, he states to be extremely variable in shape, there is scarcely enough to separate it from *A. umbellata.*

ORD. XXXIX. AMARANTHACEÆ. *Juss.*

1. Amaranthus *hybridus;* foliis ovato-lanceolatis, glomerulis interrupte spicatis, spicis decompositis congestis axillaribus terminalibusque erectis, perianthii laciniis lanceolato-subulatis, staminibus quinque.—*Linn.—Pursh, Fl. Am. v.* 1. *p.* 207.

ORD. XL. CHENOPODIEÆ. *De Cand.*

1. Atriplex *arenaria. Nutt.*

Folia alterna, oblongo-elliptica, subsessilia integerrima, obtusa, obsolete trinervia, utrinque albido-furfuracea; non nitida. *Spicæ* breves, axillares. *Caulis* decumbens, herbaceus, ramosus, angulatus, furfuraceus.

Apparently allied to *A. Sibirica*, L.; but we have not seen the fruit. It agrees with original specimens of Mr. Nuttall's *A. arenaria* in our Herbaria.

2. Atriplex *angustifolia. Sm.*

1. Chenopodium *murale. Linn.?*

2. Chenopodium *ficifolium. Sm.?*

3. Chenopodium *ambrosioides. Linn.?*

These three species of *Chenopodium* seem to correspond with the Europæan species of the same name.

ORD. XLI. POLYGONEÆ. *Juss.*

1. Rumex *salicifolius;* ramis decumbentibus, foliis lanceolatis integerrimis subundulatis, glomerulis spicatis subaphyllis, floribus monoicis, sepalis internis demum æqualibus oblongis obtusis integerrimis unico (quandoque duobus) valde granulifero.—*Weinmann, in Bot. Zeit. v.* 4. *p.* 28.

2. Rumex *persicarioides;* foliis infimis ovato-lanceolatis undosis?, ramis floriferis alternis divisis, verticillis omnibus axillaribus, sepalis internis demum ovato-oblongis subacuminatis utrinque tridentatis dentibus sepalorum longitudine omnibus valde granuliferis. *Campd.—Linn.—Pursh, Fl. Am. v.* 1. *p.* 248. *Campd. Rum. p.* 79.

Our specimens of this plant are very nearly allied to, if not the same with *R. maritimus.* It is gathered by Mr. Douglas, at the mouth of the Columbia, and by him and Drummond at Hudson's Bay; and we have the same from Patagonia.

1. Polygonum *Persicaria. Linn.*

2. Polygonum *acre;* caule erecto glabro folioso, ochreis hispidulis setaceo-ciliatis laxiusculis internodio dimidio brevioribus, foliis subsessilibus prope ochreæ basin affixis lanceolatis acuminatis glabriusculis margine nervoque medio minutim ciliatis, spicis filiformibus laxis tenuifloris longis geminatis geniculatis, bracteis turbinatis ciliatis vel submuticis 3–4-floris, floribus 8-andris trigynis, perianthio 5-partito pellucido punctato, achenio triquetro faciebus ovatis lævibus angulis acutis. *Meisn.—H. B. K. nov. Gen. et. Sp. v.* 2. *p.* 179. (non Lam.) *Meisner. Polyg. p.* 77.

3. Polygonum *Paronychia;* caulibus prostratis suffruticosis, internodiis brevibus foliosis, ochreis parte inferiore obconica laxa fusca internodium subæquante superiore membranacea nitidissima argentea lacera folium subæquante, petiolo (ochreæ adnato) trinervi, foliis lineari-lanceolatis margine revolutis carnosiusculis glabris subtus prominenter uninerviis subdeciduis, floribus majusculis subsolitariis breve pedicellatis axillaribus ad apicem ramorum confertis octandris perianthio 5-partito, stylo longitudine germinis, stigmatibus 3 non capitatis! achenio incluso acute triquetro, faciebus lato-lanceolatis lævibus.—*Cham. et Schlecht. in Linnæa, v.* 3. *p.* 51.

Very nearly allied to *P. martimum,* but quite distinct.

1. Eriogonum *parvifolium;* caule suffruticoso ramoso, foliis in ramulos novellos approximatis alternis breve petiolatis margine recurvis supra glabrescentibus subtus dense tomentosis, florum fasciculis glomeratis vel rariter discretis, perianthio pedicellisque glabris.—*Sm. in Rees' Cycl.*

Whale-Ship Bay. Sometimes, though rarely, the fascicles of flowers, instead of being arranged in a dense head, are situated singly at the extremities of short branches; this is probably what Sir James Smith means by saying that they are proliferous, and ought perhaps to be viewed as the normal state of the plant: the uniform abbreviations, and almost total disappearance of these little branches, causing the appearance we have above characterised, and which is the common state in the specimens before us. The specimens, however, entirely accord with our original ones from Mr. Menzies.

2. Eriogonum *arachnoideum;* caule suffruticoso subprolifero, foliis subradicalibus approximatis alternis longe petiolatis ovatis margine undulatis subtus dense tomentosis supra primum arachnoideo-tomentosis demum glabratis, florum fasciculis sæpius binis ternisve subumbellatim secus ramos pedunculi scapiformis communis dispositis, perianthio pedicellisque glabris. —E. arachnoideum. *Eschsch. in Mem. Acad. Imp. St. Petersb. v.* 10. *Linnæa, v.* 3. *Litt. p.* 150.

This species, although it sometimes bears a head of flowers, never seems to present the aggregated appearance of the last one, nor of the *E. latifolium*, Sm., from which it is truly distinct. The long petiolated leaves are seated at the apex of a short ramification; but the greater number of them are radical.

ORD. XLII. LAURINEÆ. *Juss.*

1. Tetranthera? *Californica;* foliis perennantibus oblongo-lanceolatis vix acutis penninerviis reticulato-venosis glabris, pedunculis axillaribus simplicibus, floribus pluribus involucratis hermaphroditis?

Involucrum tetraphyllum, deciduum. *Perianthium* hexaphyllum; foliola subrotunda concava pellucido-punctata. *Stamina* 12, duplici ordine disposita; 6 exteriora, antheris introrsis; interiorum tria, foliolis calycinis exterioribus opposita, fertilia, antheris extrorsis; tria, laciniis interioribus opposita, subulata, absque antheris. *Glandulæ* sex, magnæ, subrotundæ, angulatæ inter staminum interiorum exteriorumque series, hisque alternantes. *Antheræ* 4-loculares. *Germen* ovatum, in stylum brevem apice subuncinatum attenuatum: *stigma* subcapitatum.

The flowers are too little advanced to permit us to ascertain whether the pistillum becomes fertile, and the plant consequently hermaphrodite: it however appears to us to be so. The inflorescence and involucrum are those of a *Tetranthera,* while the hermaphrodite flowers, and somewhat capitate stigma allies our plant to *Ocotea.* In one specimen we have observed the remains of the calyx after the drupe has fallen away, from which it appears to be cupuliform, entire, coriaceous, and persistent. The peduncle is monocarpic, or bears but one fruit, and is much shorter than the leaves.

ORD. XLIII. EUPHORBIACEÆ. *Juss.*

1. E. *Peplus. Linn.*

The specimens differ somewhat from the Europæan ones, by the leaves being rough, although scarcely serrated on the margin, and by having a slight mucro. The glands of the involucrum are lunate and two-horned, otherwise our specimens might have been referred to *E. marginata,* Ph.

ORD. XLIV. URTICEÆ. *Juss.*

1. Urtica ———*?*

The imperfect state of the specimen prevents us from ascertaining whether or not this belongs to the arborescent tribe. The leaves are opposite, varying from ovate, with a slightly cordate base, to oblongo-lanceolate and accuminated. They are deeply serrated, slightly hairy above, with a few rigid stinging bristly hairs intermixed, which are more abundant on the petioles: beneath they are provided with a short white villous pubescence. Spikes of flowers crowded at the axillæ of the leaves, slightly branched, pendulous. Fruit ovate; style none; stigma sessile, penicillate.

XLV. AMENTACEÆ. *Juss.*

1. Salix *Hoffmanniana. Sm.*

The specimens, which are without the inflorescence, and consist only of the old branches with leaves, agree perfectly with the above plant, but we are not aware of its being an American species, as well as Europæan. There is a gland or two at the base of the leaf, on each side of the petiole, and the base has no sinus, as in *S. cordata,* Muhl., in Koen. Ann. of Bot. v. 2. p. 64. t. 5. f. 3., to which otherwise the leaf bears the strongest resemblance.

1. Populus *balsamifera. Linn.*

1. Platanus *occidentalis;* foliis basi cuneatis vix ad medium 5-lobatis dentato-serratis subtus floccoso-pubescentibus, stipulis denticulatis.—*Linn.—Pursh, Fl. Am. v.* 2. *p.* 635.

1. Myrica *Xalapensis? Humb. et Kunth, Nov. Gen. v.* 2. *p.* 16.

First detected by Mr. Menzies; and if we are correct in referring the plant to the *M. Xalapensis*, it is a native of Mexico also.

1. Corylus *Americana, MSS.—Pursh, Fl. Am. v.* 2. *p.* 634.

1. Alnus *serrulata. Linn.*

ORD. XLVI. CONIFERÆ. *Juss.*

Sequoia sempervirens

1. Abies *religiosa;* ramulis glabris, foliis planis linearibus integerrimis acutis subtus pruinoso-glaucescentibus.—*Schlecht. et Cham. in Linnæa, v.* 5. *p.* 77.—Pinus religiosa. (H. B. K. no!)

"The native name is *Red Cedar*. The older wood in the centre is of a dark red colour, whilst the newer and outer is white. It is very dry and splintery, but continues a long time undecayed, when covered with earth. The trees grow large, straight, and tall, sending off their branches at right angles. They decorate the valleys and tops of the mountains, and are the most general trees on the shores of the Bay of San Francisco. I was informed that there are trees of this species in the vallies between Santa Clara and Santa Cruz, 150 feet high, one of which was 25 feet in circumference. When young, the wood is so full of sap, as to make it sink in salt water."—*Collie, MSS.* Perhaps *Pinus taxifolia*, Lamb. is not distinct.

P. insignis

1. "Pinus *rigida?*" *Mill.*

"Black or pitch pine.—Abundant on the granite hills close to the sea, on the South East side of the Bay of Monterrey, giving the name of Pine Point to the southern part of the bay. The trees grow to the height of 60 or 80 feet, are very straight, and of large diameter, rendering them very fit for masts. They are also used for rafters, but decay very soon when covered with earth. They contain much resin!" *Collie, MSS.*—Of this, we regret to say, no specimen exists in the Collection.

ORD. XLVII. IRIDEÆ. *Juss.*

1. Iris *humilis;* rhizomate repente, caule subnullo, foliis linearibus scapo unifloro multo longioribus, tubo floris imberbis filiformi, capsula obtuse hexagona.—*Marsh. Bieb. Fl. Taur. Caucas.*

The Californian specimens exactly accord with Caucasian ones we possess from Dr. Fischer, and from Elizabethgorod from Mr. Prescott. Perhaps *I. verna*, Pursh, is not distinct.

2. Iris *Sibirica;* foliis linearibus acutis scapo subtrifloro brevioribus, spathis acutis tubum floris imberbis subæquantibus. *Spr.—Willd. Sp. Pl. v.* 1. *p.* 237. *Pursh, Fl. Am. v.* 1. *p.* 30.

1. Sisyrinchium *anceps. Linn.*

ORD. XLVIII. HEMEROCALLIDEÆ. *Br.*

1. Brodiæa *congesta;* umbella subcapitata, squamis perianthii bifidis.—*Sm. Trans. Linn. Soc. v.* 10. *p.* 3. *t.* 1.

ORD. XLIX. MELANTHACEÆ. *Br.*

1. Zigadenus *glaberrimus;* rhizomate repente, scapo folioso, foliis longe lanceolatis

canaliculatis recurvis, panicula pyramidali, bracteis ovatis pedicellos subæquantibus, perianthii laciniis ovato-lanceolatis, acuminatis glandulis distinctis. *Schult.—Mich. Fl. Am. v.* 1. *t.* 22. —*Schult. Syst. Veget. v.* 7. *p.* 1559.

2. Zigadenus *commutatus;* radice bulbosa, foliis ligulato-elongatis convoluto-canaliculatis nervoso-striatis, racemo raro simplici pyramidato, scapo subnudo, bracteis longitudine pedicellorum, perianthii late ovatis cum acumine, glandulis confluentibus. *Schult. Syst. Veget. v.* 7. *p.* 1560.—Helonias glaberrima. *Ker, Bot. Mag. t.* 1680.

Of this there appears to have been only one specimen gathered. The locality from which the specimens figured in the Botanical Magazine were derived, is unknown; Mr. Ker having merely supposed it to be Virginia and Carolina, from confounding it with Michaux's plant.

ORD. L. JUNCEÆ. *Juss.*

1. Juncus *Xiphioides;* foliis culmeis ensiformibus enodulosis, panicula supradecomposita, perianthii laciniis lanceolatis acuminatis subæqualibus capsulam trigono-oblongam acutiusculam subæquantibus, testa seminis nucleo conformi. *Meyer.—Schult. Syst. v.* 7. *p.* 244.

Of this, there is only one specimen, but quite agreeing with the character.

1. Luzula *spadicea. Desv.*—Juncus spadiceus. *All.*

Of this, only a fragment exists in the Collection. The testa is of the same shape as the seed.

ORD. LI. GRAMINEÆ. *Juss.*

1. Vilfa *stolonifera, P. B.?*—agrostis stolonifera. *Sm.?*

Of it there this only part of a specimen.

1. Phalaris *Californica;* panicula subspiciformi oblonga, glumis patentibus concavis ovato-lanceolatis trinervosis, glumellis pubescentibus, rudimentis duobus oppositis glumellulæformibus pilosis e basi callosa subpedicellatis, vaginis foliorum arctis, ligula oblonga elongata.

This, as far as regards the panicle and habit of the plant, is intermediate between the true species of *Phalaris,* and *Digraphis* of Trinius. In character, it approaches most to the latter, especially by the shape of the rudimentary florets. The panicle is about the size and form of that of *Phalaris Canariensis,* or *Ph. bulbosa,* but it is not nearly so compact.

ORD. LII. FILICES. *Juss.*

1. Polypodium *Californicum;* frondibus profunde pinnatifidis, laciniis oblongis seu lineari-oblongis obtusis argute serratis, inferioribus basin versus angustatis decurrentibus, venis obliquis parallelis, venulis dichotomis anastomosantibus, soris ovalibus solitariis.—*Kaulf. Enum. Fil. p.* 102.

The greater breadth of the fronds and of the segments, and the oval sori, readily distinguish this from *P. vulgare.*

1. Gymnogramma *triangularis;* frondibus triangularibus decompositis, pinnis oppositis adnatis pinnatifidis inferioribus margine exteriori pinnato-pinnatifidis, pinnula infima lineari-

deflexa laciniis ovatis obtusis subtus flavo-farinosis. *Kaulf. Enum. Fil. p.* 73. *Hook. et Grev. Ic. Fil. t.* 315.

This has likewise been gathered by Mr. Douglas, on the elevated grounds between the " Grand Rapids" and the " Kettle Falls" of the Columbia, and upon Mount Hood to the South of that River.

1. Aspidium *munitum;* frondibus pinnatis, pinnis lineari-lanceolatis spinoso-acuminatis subfalcatis basi sursum auriculatis mucronato-serratis, serraturis subappressis rarissime bidentatis, stipite rachique subtus et basin versus paleaceis, soris solitariis.—*Kaulf. Enum. Fil. p.* 230.

This belongs to that division of the genus with orbicular and peltate involucres, and to the same groupe with *A. auriculatum*, from which it is readily distinguished by the above characters. Mr. Menzies gathered it in the Voyage with Vancouver, and Mr. Douglas and Dr. Scouler about the mouth of the Columbia.

2. Aspidium *argutum;* frondibus bipinnatis, pinnulis oblongis obtusis apice mucronato-serratis, inferioribus longioribus pinnatifidis laciniis mucronato-serratis, stipite rachibusque paleaceis, soris subcostalibus, involucris rotundato-reniformibus sinu profundo.—*Kaulf. Enum. Fil. p.* 242.

The excellent Kaulfuss compares the fronds and pinnules of this plant to *Aspidium Filix mas.*, but to us they appear rather to approach those of *Asplenium Filix fœmina*, from which, however, the fructifications abundantly distinguish it.

1. Woodwardia *radicans;* frondibus pinnatis, pinnis profunde pinnatifidis laciniis oblongo-acuminatis subfalcatis subrepandis argute serrulatis.—*Willd. Sp. Pl. v.* 5. *p.* 418. *Kaulf. Enum. Fil. p.* 162.

This had been previously observed by Chamisso to be a native of California.

1. Azolla *microphylla;* frondibus orbiculatis semipinnatis pinnis trilobis, foliolis imbricatis adpressis minutis. *Kaulf. Enum. Fil. p.* 273.

Kaulfuss has well observed that the species of *Azolla* are very difficult to be distinguished in a dry state. Whether the present ought to be separated or not from the *A. Magellanica*, it is certain that it is the plant of Kaulfuss now quoted, whose specimens were gathered in California by Chamisso.

ORD. LIII. MUSCI. *Juss.*

1. Neckera *Californica;* caulibus cæspitosis erectis pinnatis, pinnis brevibus patentibus, foliis subpatulis undique dispositis ovatis breviter acuminatis integerrimis basi obscure uninervibus marginibus recurvis, setis brevibus perichætio inclusis, capsula erectiuscula elliptica, operculo rostrato.

Caules digitales, erecti, cæspitosi, pinnati, undique foliosi; pinnis brevibus horizontaliter patentibus. *Folia* undique divergentia, erecto-patentia, nitida, membranacea, ovata seu oblongo-ovata breviter acuminata, modice concava, omnino integerrima, basi obscure uninervia, margine recurva. *Substantia* minutissime reticulata, oculo armato quasi punctulata. *Perichætialia* 6–7, arcte imbricata, convoluta, inferiora ovata acuminata, superiora elongata, acuminatissima; omnia enervia, pellucida. *Setæ* laterales perichætio fere omnino inclusæ, duas fere lineas longæ. *Capsulæ* exsertæ, erectæ, vel obliquæ, ellipticæ, rufofuscæ. *Operculum* rostratum, basi conicum. *Calyptra* gracilis, fere subulata, hinc longitudinaliter fissa. *Peristomium externum* e dentibus 16, subulatis, luteis, articulatis: *int.* e ciliis 8, filiformibus, flavis, cum dentibus alternantibus, basi membrana reticulata brevissima unitis.

ORD. LIV. HEPATICÆ. *Juss.*

1. Marchantia *polymorpha. Linn.*

1. Jungermannia *platyphylla. Linn.*

ORD. LV. LICHENES. *Ach.*

1. Parmelia *enteromorpha;* albo-virescens, thallo substellato laciniis lato-linearibus elongatis flexuosis repetitim ramosis inflatis subtus aterrimis, apotheciis infundibuliformibus disco flavo-fusco. *Hook.*—Parmelia enteromorpha. *Ach. Lich. Univ. p.* 494. *Ejusd. Syn. Lich. p.* 219. *Hook. Bot. Misc. v.* 1. *p.* 127. *t.* 33. *Sm. MSS.*

The venerable and indefatigable Menzies was the first to discover this singular *Lichen*, on the North-West coast of America, where Mr. Douglas and Dr. Scouler also found it.

2. Parmelia *caperata. Ach.*

This is mixed with some of the other *Lichens*, among which it appears to have grown.

1. Cetraria *juniperina. Ach.*

1. Cenomyce *fimbriata; b.* radiata. *Ach. Syn. p.* 255.

2. Cenomyce *pyxidata. Ach.*

1. Ramalina *scopulorum. Ach.*—var. tenuissima.

2. Ramalina *homalea;* thallo compresso ancipiti lævigato nudo ramoso albo-pallescente transversim subrimoso, ramis dichotomis attenuatis, apotheciis sparsis centro affixis concaviusculis subimmarginatis concoloribus. *Ach. Syn. p.* 294.

1. Usnea *barbata. Ach.*

ORD. LVI. ALGÆ.*

Trib. I. FUCOIDEÆ.

1. Fucus *vesiculosus.* ζ. Sherardi. *Turn.—Ag. Syst.* 276.

2. Fucus *furcatus. Ag. Syst.* 279.

Trib. II. LAMINARIEÆ.

1. Macrocystis *Menziesii. Ag.*—Fucus Menziesii. *Turn. Hist. Fuc. t.* 27.

2. Macrocystis *obtusa. Harv. MSS.;* caule compresso, foliis alternis oblongo-ellipticis obtusis integerrimis e vesiculis (petiolatis) ovatis.

Leaves two to three inches long, olivaceous, quite entire, membranaceous, translucid, the surface smooth and even.

Trib. III. FLORIDEÆ.

1. Delesseria *platycarpa. Lamour.*—Fucus platycarpus. *Turn. t.* 144.

1. Nitophyllum *laceratum;* γ. palmatum. *Harv. MSS.*

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* By W. H. Harvey, Esq.

A very remarkable variety, with a stipitate frond, cartilaginous below, branched; branches or segments oblong, wedge-shaped, inclining to palmate, strongly nerved at the base: the nerve ramifying over the whole membrane, and visible to the extremity of the frond. In some specimens these segments are stipitate, and almost resemble the leaves of a *Delesseria.* Sori in marginal leaflets.—δ. *serrulatum.* Harv.—Frond linear, attenuated, much branched, with a broad nerve at the base, which vanishes about the middle, the margins sharply serrate.

1. Rhodomenia *laciniata. Grev.*—Fucus laciniatus. *Turn. t.* 69.

2. Rhodomenia *polycarpa. Grev.—Crypt. t.* 352.

Another specimen in the Herbarium probably belongs to this species also.

3. Rhodomenia *ciliata; β. microphylla.*

A remarkable variety, with a lanceolate outline, throwing out stipitate lanceolate leaflets from its margine and disk; these in turn are ciliato-dentate, with lanceolate *compressed* ciliæ, or incipient *tertiary leaflets* on both surfaces.

1. Gelidium *cartilagineum. Gaill.*—Fucus cartilagineus. *Turn. t.* 124.

2. Gelidium *corniculatum. Grev.*—Fucus corniculatus. *Turn. t.* 182.

3. Gelidium? *lanceolatum. Harv. MSS.* Fronde plana cartilaginea bipinnata, pinnis elongatis basi attenuatis, pinnulis lanceolatis simplicibus suboppositis.

6–8 inches high, pinnately branched, the branches (pinnæ) long, simple, much attenuated at the base and apex; 1–2 lines broad in the middle, pinnated with foliaceous, lanceolate, mostly opposite ramuli, from 2–6 lines long. Both branches and ramuli are perfectly simple, and preserve their *strictly lanceolate* figure throughout.

1. Plocamium *coccineum. Lyngb.*—Fucus coccineus. *Turn. t.* 59.

1. Laurencia *obtusa. Lamour.*—Fucus obtusus. *Turn. t.* 21.

2. Laurencia *pinnatifida. Lamour.*—Fucus pinnatifidus. *Turn. t.* 20.

1. Chondrus *mammillosus. Grev.*—Fucus mammillosus. *Turn. t.* 218.

2. Chondrus *constrictus. Grev.*—Fucus constrictus. *Turn. t.* 152.

3. Chondrus *vermicularis. Grev.* (?)—Fucus vermicularis. *Turn. t.* 221. (?)

The specimen which I refer to this species wants the fruit, which in the *Chondri* is of some moment in specific characters, but the ramification and substance agree with Turner's figure.

1. Ptilota *hypnoides. Harv. MSS.;* jugamento compresso filiformi bipinnato, pinnis pinnulisque alternis, his alternatim pinnatifidis (segmentis lanceolatis) et ramulis foliiformibus lanceolatis acutis alternantibus.

This, not excepting our own *P. plumosa,* is the most beautiful of the genus, and one of the most elegant of marine plants. It is readily known by the small *leaflike* ramuli, (1 line long) of a lanceolate figure, which regularly alternate with the pinnules, a pinnule and a *leaflet* being always *opposite* each other, but standing *alternately* on the stem. Stems bipinnate, 4–5 inches high, slender, two-edged, all the divisions alternate; pinnules closely pinnated with lanceolate leaf-like ramuli, between each of which rises a rudimentary branchlet, which in its turn bears also a set of similar little leaves, in an alternate series, *opposite* each of which is a clavate dark red receptacle full of small grains.

2. Ptilota *pectinata. Harv. MSS.;* jugamento compresso filiformi subbipinnato, pinnis pinnulisque alternis, ramulis extremis (nascentibus pectiniformibus) distichis divaricato-multifidis.

This, too, in its young state, is distinguished like the last by a very beautiful character, a little comb-like ramulus, inciso-serrate on its lower side, being placed opposite the insertion of each pinnule; but in older fronds, from a frequent multiplication of this structure, nothing is visible but a confused fascicle of multifid ramuli. The pinnules, or secondary branches, are closely set with similar ramuli, alternating with each other, and in the spaces between these are situated fructiferous multifid ramuli, which bear dense clusters of trisporous capsules.

Trib. IV. GASTROCARPEÆ.

1. Iridæa *papillata. Grev.*—Sphærococcus papillatus. *Ag.* 222.

A fine species, and an undoubted *Iridæa.* Shape of *I. edulis*, thick, flexile, its upper half bearing elongated papillæ in great abundance, each of which terminates in one or more umbilicated warts. These warts contain a mass of small seeds, lodged in a central cavity, and differ principally from regular capsules, (such as are found in the *Florideæ*,) by passing into the pediceles, and thence into the frond, without any perceptable alteration in the size or shape of the subjacent cellules. The outer coating of the frond also is continued round them without interruption, and the whole is perfectly opaque.

Trib. V. SIPHONEÆ.

1. Codium *tomentosum. Stackh.*—Fucus tomentosus. *Turn. t.* 135.

Trib. VI. CERAMIEÆ.

1. Ceramium *obsoletum. Ag. Sp. Alg.* 2. *p.* 145.

Parasitical on *Iridea papillata.*

1. Polysiphonia *verticillata. Harv. MSS.;* filis nanis repentibus parce ramosis; ramis obsolete articulatis, ramulis subverticillatis simplicibus acutis incurvis multistriatis articulis diametro brevioribus.

A very curious and distinct little species, 1–2 inches high, with a good deal the habit of *Cladostephus*, but possessing the structure and substance of *Polysiphonia.* Colour a deep brown.

CHINA.

[Chiefly collected about Macao.]

Through the kindness of our valued friend, Charles Millett, Esq., we are in possession of many Chinese plants, gathered by himself at Macao and the adjacent Islands. The Collection also includes many from the Herbarium of the Rev. G. H. Vachell, Chaplain to the Factory at Canton, in whose bounty we have again likewise shared, through the medium of the Rev. Professor Henslow of Cambridge. These have all assisted us in materially determining many species in Captain Beechey's Collection; and they have furnished us with several species which our Naturalists had not the good fortune to meet with during their limited stay at Macao.

Ord. I. RANUNCULACEÆ. *Juss.*

1. Clematis *viticella. Linn.*—var. flore pleno.

Mr. Vachell and Mr. Millett have sent us specimens of *C. hedysarifolia*, De Cand. and Ker, in Bot. Reg. t. 599.

Ord. II. DILLENIACEÆ. *De Cand.*

1. Delima *sarmentosa;* foliis ellipticis serratis integerrimisque scabris rigidis, floribus paniculatis hermaphroditis (?), germinibus capsulisque glabris. *Hook.—Linn. Sp. Pl. p.* 736. *Burm. Ind. p.* 122. *t.* 37. *f.* 1. *Hook. Bot. Mag. t.* 3058.—Actæa aspera. *Lour. Fl. Cochin. v.* 1. *p.* 405.—Trachytella Actæa. *De Cand. Prodr. v.* 1. *p.* 70.

Of this Mr. Millett and Mr. Vachell have communicated specimens marked "*Actæa aspera*, Loureiro," which it is now generally acknowledged to be; and with the remark that the rough leaves are used by the Chinese to clean their tin-ware.

Ord. III. MAGNOLIACEÆ. *De Cand.*

1. Michelia *Champaca;* foliis ovato-lanceolatis glabris.—*Linn. Sp. Pl. p.* 756. *Lam. Ill. t.* 493.

1. Magnolia *Yulan. Desf.?*

Of this nothing but leaves are in the Collection.

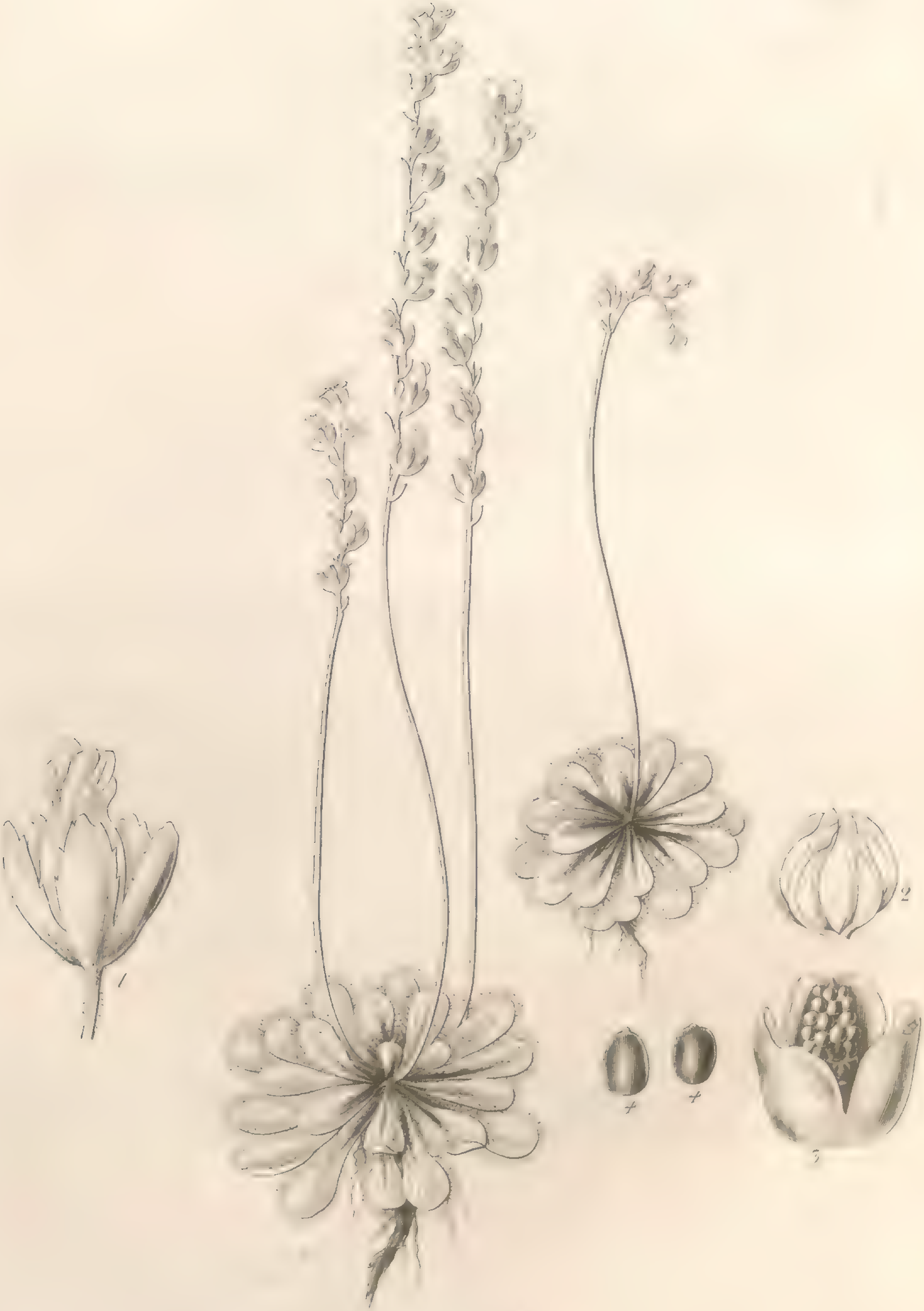
Ord. IV. ANNONACEÆ. *Juss.*

1. Unona *discolor;* foliis ovatis vel lanceolatis acutis vel acuminatis subcordatis superne glabris, subtus glaucescentibus et pilosiusculis, pedunculis lateralibus unibracteatis, lobis calycinis lanceolatis longe acuminatis, petalis lanceolatis interioribus minoribus, toro fructigero non incrassato. *Alph. De Cand.—Vahl. Symb.* 2. *p.* 63. *et* 36. *De Cand. Prodr. v.* 1. *p* 91.—U. Lessertiana. *Dun. Annon. t.* 26. *De Cand. Prodr. v.* 1. *p.* 90.—U. Chinensis. *De Cand. Prodr. v.* 1. *p.* 91.—Desmos Chinensis. *Lour. Fl. Coch. v.* 1. *p.* 431.

Islands about Macao. *Mr. Vachell and Mr. Millett.*

1. Artabotrys *hamatus;* foliis elliptico-oblongis basi apice acutis coriaceis glabris, carpellis ovatis utrinque attenuatis dispermis. *Blume, Fl. Jav. Annon. p.* 60. *t.* 29 *et* 34. *f.* c.

TAB XXXI



Drosera Loureirii

W.J.H. del

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Very closely allied to *A. odoratissimus*, Brown, (which comprehends the *Unona esculenta* and *U. uncinata* of Dunal, and *Uvaria odoratissima*, Roxb. Fl. Ind. v. 2. p. 666,) but apparently distinct by the shape of the fruit, which in *A. odoratissimus* is rounded at the apex. Our friend Dr. Wight, however, informs us that he has observed the fruit vary so very much on the same plant in India, as to leave considerable doubts how far both species are not identical. Fine specimens are communicated by Mr. Millett.

1. Guatteria *rufa;* foliis ovalibus acuminulatis basi subcordatis subtus ramulisque rufo-tomentosis, pedunculis brevissimis lateralibus vel oppositifoliis, petalis æqualibus, baccis subglobosis.—*Dunal. Annon. p.* 129. *t.* 29.

Lappas Islands. *Mr. Vachell. Mr. Millett.*

Ord. V. MENISPERMACEÆ.

1. Cocculus? *diantherus;* ramis petiolis pedunculisque subsericeo-villosis, foliis ovatis obtusis mucronulatis basi truncatis nunc subtrilobo-hastatis utrinque pilis raris pubescentibus demum glabriusculis, floribus masculis paniculatis, staminibus 6, anthera quadriloculari e duabus conflata.

The panicle is sometimes not much longer than the petiole, but appears also on the same specimen to be elongated; in the latter state, however, it seems to be a young branch from which the leaves have dropped off from the base of the true panicles. We have only seen the male flowers: the anthers are as in *Menispermum*, but the flower is divided in a ternary manner, as in *Cocculus*. We have also received it from Lappas Island, from Mr. Millett and from Mr. Vachell, from whom we have likewise the very nearly allied *C. ovalifolius.*

Ord. VI. CAPPARIDEÆ. *Juss.*

1. Capparis *pyrifolia. Lam.?*

The few leaves we have seen are scarcely acute, although acuminated. The spines are very short. Pedicells axillary, one-flowered, usually solitary. We have received from Mr. Millett specimens of a *Capparis* which we presume may be the *C. Cantonensis*, Lour. Of this Order too, we possess *Polynesia viscosa*, both from Mr. Millett and Mr. Vachell, gathered on the Peninsula.

Ord. VII. DROSERACEÆ. *De Cand.*

1. Drosera *Loureirii;* foliis oblongo-spathulatis in petiolum subæque longum pilosum attenuatis, scapo ascendente elongato pluri-(5–15)-floro folia multo excedente versus apicem calyceque glanduloso-pubescentibus, pedicellis calycem æquantibus, seminibus exarillatis. (Tab. XXXI.)—D. rotundifolia. *Lour. Cochin. v.* 1. *p.* 233.—D. Burmanni. *De Cand. Prodr. v.* 1. *p.* 318. (quoad specimen Chinense.)

This plant differs widely from all the forms of *D. Burmanni*, by the shape of the leaves and petioles, and from *D. rotundifolia* by the want of an arillus to the seed. The leaves are intermediate between *D. brevifolia*, Pursh, and *D. intermedia*, Drev. et Hayn.: the petiole, however, is pilose and ciliated, with hairs similar to those on the limb. Willdenow, in his edition of Loureiro, among the *corrigenda* at p. 883, remarks, "Drosera rotundifolia, a Burmanno depicta, ab Europæa nostra differe videtur. Possideo specimen hujus plantæ siccum, quod alio loco et tempore fusius describam." If Willdenow has reclaimed his promise, we have not been able to ascertain the work in which he has done so, and therefore have proposed the above specific name.

Tab. XXXI. Drosera Loureirii. *Fig.* 1, Calyx, with the fruit and persistent corolla; *fig.* 2, Ripe capsule burst: the styles (*fig.* 3,) having separated from the fruit; *fig.* 4, Seeds:—*magnified.*

ORD. VIII. PITTOSPOREÆ. *Brown.*

1. Pittosporum *Tobira;* foliis obovatis obtusis coriaceis senioribus glaberrimis, pedunculis unifloris aggregato-umbellatis calyceque dense pubescentibus.—*Ait. Hort. Kew. ed.* 2. *v.* 2. *p.* 27. *Bot. Mag. t.* 1396.

The flowers in the wild state are not half the size of those represented in the Botanical Magazine.

2. Pittosporum *pauciflorum;* foliis obovatis subiter attenuatis basi cuneatis planis petiolisque glaberrimis, pedunculis terminalibus unifloris subsolitariis glabris sepalis dorso glabris margine ciliatis oblongis acutis corolla subtriplo brevioribus, petalis linearibus obtusis. (Tab XXXII.)

Frutex glaber, ramosus. *Rami* oppositi vel verticillati, teretes, versus apices foliosi. *Folia* alterna, opposita, vel verticillata, obovata vel elliptica, vel oblonga, basi plus minusve cuneata, apice in acumen breve acutum subiter attenuata margine exsiccatione subrecurvia, utrinque glaberrima, venis supra impressis subtus subinconspicuis, nervo medio subtus prominulo. *Pedunculi* terminales uniflori, plerumque solitarii, rarius biniternive, e squamis paucis minutis lanceolato-subulatis, bracteæformibus orti, glabris vel potius sub lente pilis paucis brevibus adpressis hinc inde adspersi, folio multo breviores. *Calyx* 5-sepalus: sepala dorso glabra, margine ciliata, oblonga, acuta, corolla duplo triplove breviora, post anthesin decidua. *Petala* 5 glabra linearia, nullum discrimen inter limbum unguemque exhibentia, inferne in tubum conniventia, superne patula, obtusa. *Capsula* lignosa, velutina, unilocularis, bivalvis, valvis medio septiferis. *Semina* plurima, secus septa utrinque superposita.

This species is considerably allied to *P. undulatum*, Andr., and still more to *P. nilgherrense* and *P. tetraspermum* of Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis, in the course of publication.

TAB. XXXII. Pittosporum pauciflorum. *Fig.* 1, Flower:—*magnified.*

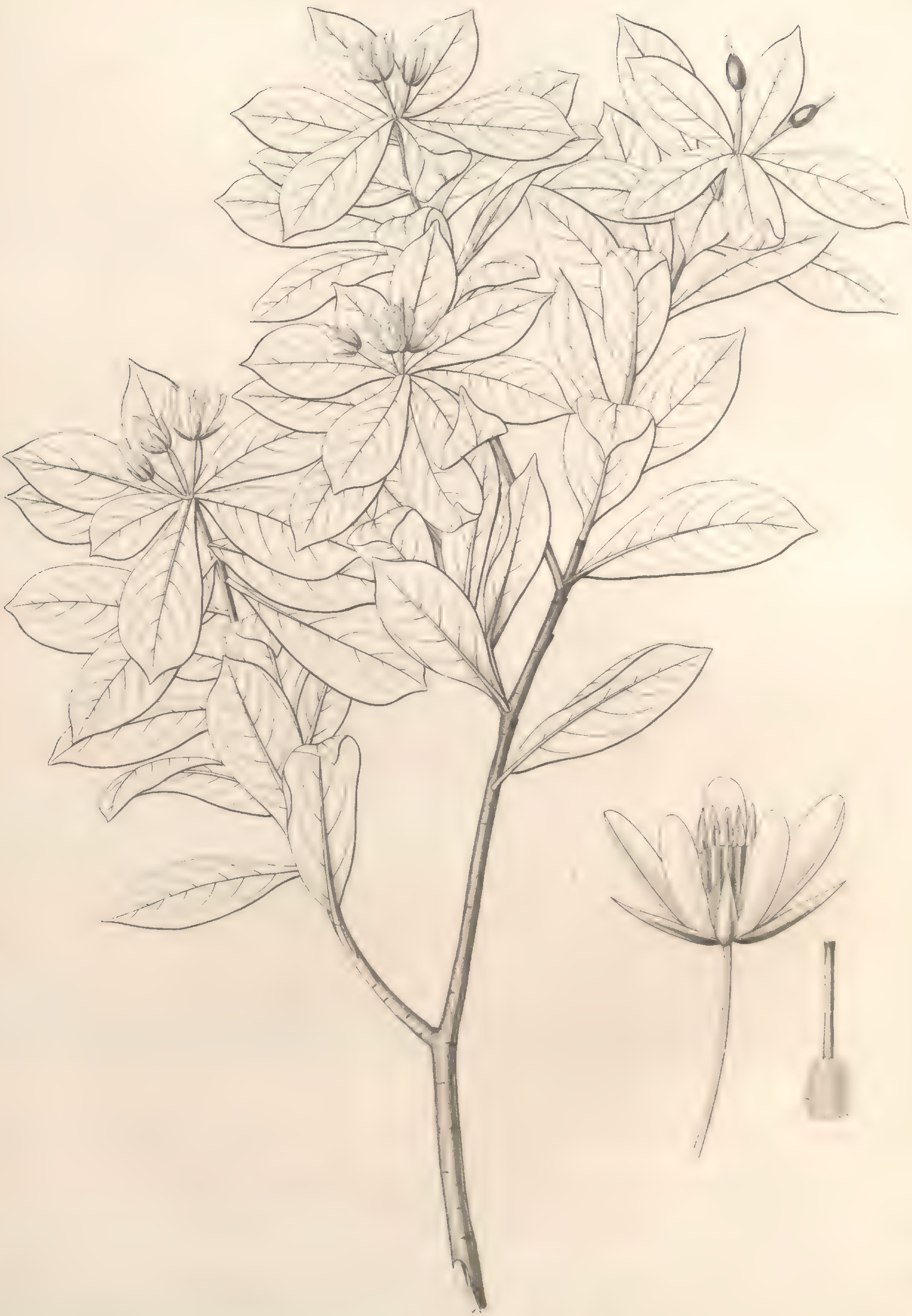
ORD. IX. MALVACEÆ. *Juss.*

1. Malva *tricuspidata;* foliis ovato-oblongis acutis subduplicato-serratis, floribus axillaribus solitariis brevi-pedicellatis vel terminalibus subspicatis, carpellis 10–12 dorso superne bicuspidatis apice styli basi persistente aristulatis.—*Ait. Hort. Kew. ed.* 2. *v.* 4. *p.* 210. *De Cand. Prodr. v.* 1. *p.* 430.—M. Coromandeliana. *Linn. Sp. Pl. p.* 967. *Hort. Upsal. p.* 201. (excl. syn. Plukn.)—M. Americana. *Cav. Diss.* 2. *t.* 22. *f.* 2.—M. carpinifolia. *Desr. in Encycl. Meth.* 3. *p.* 754.—Sida carpinoides. *De Cand. Prodr. v.* 1. *p.* 461.

Of this species, common to both the Old and New World, our synonyms are taken from notes made by Mr. Arnott, in De Candolle's Herbarium, in 1825. To them ought probably to be added *S. mucronulata*, De Cand. Prodr. v. 1. p. 461, which is also a *Malva*, having a three-leaved involucre, and tricuspidate fruit; but De Candolle's specimen differs slightly in the more glabrous leaves. It may be added, that Sprengel has most erroneously united *Sida carpinoides* with *S. ulmifolia*, Willd., to *S. spirææfolia*, Link. The axillary flowers are always, we believe, solitary, but they are sometimes, though rarely, accompanied by a short branch, on which there are other flowers forming a kind of spike: this has given rise to the character sometimes given, of the axillary flowers being numerous and densely clustered, "floribus axillaribus glomeratis." DC.

1. Hibiscus *tiliaceus. Linn.*—H. elatus. *Swartz.*—Paritium tiliaceum. *St. Hil.*

There appears to be no difference whatever between the Eastern plant, and that from the West Indies. Both have the leaves more or less distinctly crenated, with from one to three linear pores beneath on the nerves. The same is sent us also by Mr. Millett and Mr. Vachell, from the Island of Lintin.



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2. Hibiscus *Rosa-Sinensis. Linn.*

The specimens in Capt. Beechey's Collection, and those from Mr. Millett, have double flowers.

1. Sida *rhombifolia; Linn.*

The specimen in the Collection is in no way different from those from the New World, nor does it appear that *S. rhomboidea*, Roxb., is at all distinct. The species however, described in De Candolle, which our friend Dr. Wight has met with in the neighbourhood of Madras, has no beaks to the carpels.—*Sida humilis*, Willd., *S. cordifolia*, L. (according to Wallich), and *S. populifolia*, Lam., are communicated by Mr. Vachell and Mr. Millett; and *Gossypium arboreum*, from the gardens of Macao.

ORD. X. BOMBACEÆ. *Kunth.*

1. Helicteres *angustifolia;* foliis anguste oblongis obtusis mucronatis integerrimis subtus stellatim pubescentibus pannosis supra viridibus glabriusculis vel pilis stellatis subscabris, pedunculis terminalibus axillaribusque binis ternisve paucifloris, carpellis ellipsoideis hispido-villosissimis.—*Wall. Cat. n.* 1187.

α. foliis supra glaberrimis.—H. angustifolia. *Linn.—De Cand. Prodr. v.* 1. *p.* 476.—*Lour.* (non *Wall.*)—H. virgata. *Wall. List of East India Plants, n.* 1181.

β. foliis supra scabriusculis.

Of this we have been obliged to resort to more perfect specimens than those in the Collection, the first variety only being gathered, and that destitute of fruit. This is assuredly the true *H. angustifolia* of Linnæus, of which Willdenow says "folia obtusiuscula." It appears also to be that intended by Loureiro, and is the only narrow-leaved species we have received from Macao. But then it can scarcely be the plant of Lamarck, Encycl. Meth. 3. p. 89, of which he says "feuilles lanceolées ou etroites-lanceolées, saliciformes;" and of which the description seems to be made up partly from Linnæus's character, and partly from the branchlets the Author says he obtained from Sonnerat. Again Sonnerat's and Lamarck's plant seems to be *H. lanceolata*, De Cand. Prodr. v. 1. p. 476; "species distinctissima:" and with it *H. angustifolia*, Wallich's List, n. 1180, is identical, as also what Colebrooke named *H. spicata* to Sir James Smith, according to a specimen communicated by Sir James to Dr. Hooker. But this last must not be confounded with what stands as *H. spicata* of Colebrooke, in Wallich's List, n. 1182, and is described by Mr. G. Don in his ed. of Miller's Dictionary, p. 507, which precisely accords with specimens we have received from Canton, and which agree so well with the description given by Loureiro of his *H. hirsuta*, that we cannot consider them as any way distinct. This latter we possess from Mr. Vachell and Mr. Millett, gathered about Macao: whilst the true *H. angustifolia*, these gentlemen find on Lappas Island.

ORD. XI. BYTTNERIACEÆ. *Brown.*

1. Sterculia *lanceolata;* foliis oblongo-lanceolatis obtuse subacuminatis integerrimis glabris, paniculis axillaribus, laciniis calycinis oblongis extus paniculæque ramulis pubescentibus, carpellis oblongis oligospermis.—*Cav. Diss.* 5. *p.* 287. *t.* 144. *f.* 1.—*Lindl. in Bot. Reg. t.* 1296.

In our plants, as well those from Messrs. Lay and Collie as others from Mr. Vachell and Mr. Millett, the flowers are in small lax panicles, and not in simple racemes.

2. Sterculia *nobilis;* foliis ovato-oblongis integris glabris, calycis laciniis linearibus apice coherentibus, carpellis ovatis mucronatis 1–2-spermis. *De Cand.—Smith in Rees' Cycl.*—S. monosperma. *Vent. Malm. t.* 91.—S. Balanghas. *Ait.*—Southwellia nobilis. *Salisb.*

Of this we have only seen the panicles of flowers.

1. Reevesia *thyrsoidea. Lindl. in Bot. Reg. t.* 1236.

This seems to be an abundant plant, if we may judge from the specimens we have received from various friends.

1. Byttneria *aspera;* foliis cordato-subrotundis breviter ac subiter acuminulatis integerrimis nervo medio versus basin subtus glandula lineari oblonga instructo, floribus corymbosis, carpellis aculeis brevibus validis echinatis.—*Colebr. in Roxb. et. Willd. Fl. Ind.* 2. *p.* 383.—B. grandifolia. *De Cand. Prodr. v.* 1. *p.* 486.

The capsule consists of five cocci, which split in an elastic manner, and separate from the central axis, very much as in *Hura crepitans,* to which also in the appearance of the foliage this plant bears considerable resemblance. The leaves are described by Dr. Wallich as pubescent beneath, and they are so likewise in the specimen from China before us; but those from the Calcutta Garden, distributed by Dr. Wallich, (n. 1144 of his List of Indian Plants,) are, as De Candolle says, perfectly glabrous. We scarcely know what is meant in the Flora Indica (l. c.) by " Anthers twin:" probably anthers two-celled, as there is really but one anther, although the two cells be slightly distinct. Mr. G. Don, in Miller's Dictionary, places this species in *Commersonia,* with which it agrees pretty well in habit, but not in the structure of the fruit, nor in the trifid filaments.—With regard to *Commersonia,* we have at page 60 of this Work inadvertently been led into the same mistake as other authors, by referring to Rumph. Amb. 3. 119, as a figure of Forster's *C. echinata.* At first sight the figure agrees well, and is therefore quoted by Forster himself; but on turning to the text, Rumphius thus describes the leaves " adulta inferius sunt subrotunda, in medio antem latissime, sex nempe digitos transversales lata sunt illa, quæ palmam longa sunt." Besides the great size described, they are represented strongly serrated. Now the plant we had in view, and which, after a second careful comparison with Forster's plate and description, we still consider to be his species, has rigid coriaceous leaves, glabrous above, and covered with a compact white pubescence beneath; their shape is oblongo-lanceolate, slightly and unequally cordate at their base, while their margin is slightly and distantly toothed. There cannot, we think, be the smallest doubt but the *Commersonia echinata* of Blume, now called *C. Javensis,* by Mr. G. Don, in Miller's Dictionary, (with which again we consider as identical *C. platyphylla, β.* De Cand. Prodr. v. 1. p. 486, and *C. echinata* of Roxburgh, figured and described by him as n. 1392, at the India House, but omitted in his own Indian Flora, although the name is inserted in the Hortus Benghalensis at p. 22,) is the plant figured by Rumphius; and further, we do not see any satisfactory character to distinguish it from *C. platyphylla,* Andr., figured in the Bot. Magazine, t. 1813.

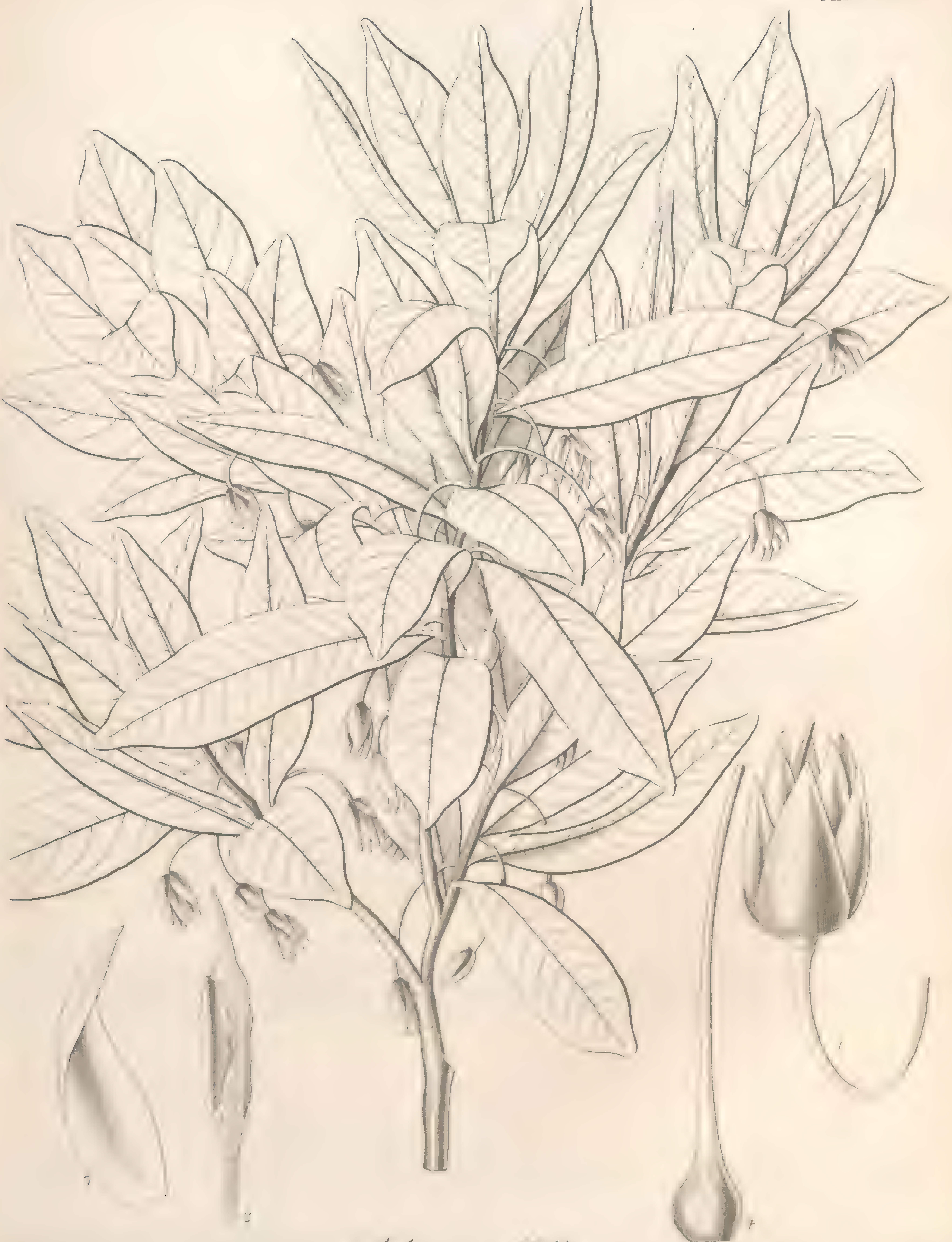
1. Pentapetes *phœnicea. Linn.*

1. Pterospermum *acerifolium;* foliis cordatis subrotundis dentatis, involucro nullo.—*Willd. Sp. Pl. v.* 3. *p.* 729.—Pentapetes acerifolia. *Linn.*

Walteria indica of this order is found by Mr. Vachell near Macao.

ORD. XII. TILIACEÆ. *Juss.*

1. Grewia *Microcos;* foliis ovato-vel obovato-lanceolatis acuminatis junioribus subtus breviter stellato-pilosis adultis glabris basi subcordatis rugulosis serrulatis, panicula terminali pubescenti, floribus binis ternisve involucratis, petalis calyce multo brevioribus apice emarginatis, ad unguem cavitate annulo pubescenti cincta intusque glandulam adpressam prope basin ferente instructis, drupa putamine unico pilosa triloculari, foliis serratis. *Linn. Syst. ed.* 12. *v.* 2. *p.* 602. *De Cand. Prodr. v.* 1. *p.* 510. *Spr. Syst. Veget. v.* 2. *p.* 579.—G. ulmifolia. *Roxb. Hort. Bengh. p.* 42. *Fl. Ind.* 2. *p.* 591. *E. I. C. Mus. tab. pict.* 1983.—



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G. affinis. *Lindl. in Hort. Soc. Trans.* 6. *p.* 265.—Microcos paniculata. *Linn. Sp. Pl. ed.* 1. *p.* 514. *Sm. in Rees' Cycl.*—*G. Don, in Mill. Dict.* 1. *p.* 551.—M. Mala. *Ham. in Linn. Soc. Trans.* 13. *p.* 549.—M. Stauntoniana. *G. Don, in Mill. Dict. l. c.*—Arsis rugosa. *Lour. Fl. Cochin. p.* 409.—*Burm. Fl. Zeyl. t.* 74.—*Plukn. Phyt. t.* 262. *f.* 3.—*Rheede, Hort. Mal.* 1. *t.* 56.

We have been particular about the synonyms of this plant, of which we have numerous specimens from Mr. Millett and Mr. Vachell, because there appears to have been much confusion; the state with leaves broader upwards having been described by three different Botanists, under as many different names, all considering it as distinct from the plant of Linnæus. Hamilton, however, appears to have had in view as the Linnæan plant, another species called *Microcos tomentosa* by Smith, and which is the *Grewia paniculata* of Roxburgh; and it is not improbable that, from the specific name, Roxburgh himself fell into the same mistake. As to the specific identity of the two forms, we for some time entertained considerable doubts: the figures in Roxb. Corom. Rheede, and Plukenet, all representing the Ceylon and Malabar plants and agreeing with a specimen of *M. paniculata*, Sm., preserved in the Linnæan Herbarium, exhibit a leaf that is ovato-lanceolate, and scarcely cordate at the base; while in the others from China, Ava, and Bengal, the leaves are usually broader upwards above the middle, and then shortly acuminate. To the first belongs, of Wallich's List, n. 1098, C. E. F. G.: and to the second, the other specimens of the same number, excepting perhaps D, the *G. begoniifolia*, Roxb. Fl. Ind. p. 592, about which we have not had it in our power to satisfy ourselves. Our friends Dr. Wight and Hamilton's specimens appear to determine the point that the one is not distinct as a species or even as a variety, from the other, the former Botanist having found the ovato-lanceolate leaf mixed with so strong an approach to the obovato-lanceolate kind, as to be scarcely distinguishable on the same bush, in hilly situations in the Peninsula of India: and although Dr. Hamilton says "folia apicem versus latiora," his own specimen, preserved in the Museum of the University of Edinburgh, is quite intermediate between that and the Ceylon plant figured in Burman.

Of the Order *Tiliaceæ*, we have *Corchorus acutangulus*, Lam., and *Triumfetta Lappula*, gathered near Macao, by Mr. Millett and Mr. Vachell.

Of the Order *Ternstrœmiaceæ*, Mr. Millett's Collection contains a very fine plant, which we refer to *Cleyera*, though the antheræ be not "retrorsum setoso-hispidæ," nor the stigma divided. We think the species well deserving of bearing the name of its discoverer, who has rendered so much service to Botany during his long residence in China. Its characters we give below.*

Of the Order *Camellieæ*, *Polyspora axillaris*, (*Camellia axillaris*, Ker,) is sent from Macao by Mr. Millett.

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* Cleyera *Millettii;* foliis oblongis obtuse acuminatis integerrimis (siccitate) venosis supra nitidis, pedunculis solitariis unifloris supraaxillaribus cernuis, sepalis petalisque subæqualibus omnibus acutis, staminibus pilis erectis appressis setosis, stigmate simplici. (TAB. XXXIII.)

Frutex (seu arbor) valde ramosus. *Rami* glabri, subrugosi, atro-fusci, nitidiusculi. *Folia* alterna, 2-3-uncias longa, brevissime petiolata, coriacea, oblonga, basi attenuata, apice breviter et obtuse acuminata, integerrima, nervosa, superne præcipue, ubi nitida, subtus opaca, pallidiora, nervis magis obscuris, juniora subtus puberula. *Pedunculi* paulo supra axillam inserti, subunciam longi, cernui, solitarii, uniflori, apice ad basin calycis bibracteati, bracteis cito deciduis. *Calyx* e sepalis 5, ovatis, acutis, concavis, coriaceis, lateribus imbricatis, dorso subhirsutis, marginibus ciliatis. *Petala* 5, ovato-oblonga, acuta concaviuscula, calyce vix longiora. *Stamina* 25, hypogyna, cum basi petalorum subaccreta: *Filamenta* in mucronem producta, pilosa, inferne præcipue, pilis erectis, appressis. *Antheræ loculi* oppositi, adnati, lineares, longitudinaliter dehiscentes. *Ovarium* subrotundum, piloso-hispidum, in stylum longum, simplicem, glabrum attenuatum. *Stigma* obtusum, simplex.

From *C. Japonica*, the original *Cleyera* of Thunberg, this is known by its veiny always entire leaves, by the sepals and calyx nearly equal in size, and remarkably acute, and by the entire stigma. In *C. ochnacea*, of which we possess fine specimens from Dr. Wallich, the peduncles are clustered, the sepals and petals are quite rounded at the extremity, the anthers are retrorsely hispid, and the stigma is bifid: and the same characters are found in the *C. grandiflora* of Dr. Wallich.

TAB. XXXIII. Cleyera Millettii. *Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Petal; *fig.* 4, Pistil:—*magnified.*

Ord. XIII. AURANTIACEÆ. *Corr.*

1. Triphasia *trifoliata. De Cand. Prodr. v.* 1. *p.* 536.—T. aurantiola. *Lour. Cochin.* 1. *p.* 189.—Limonia trifoliata. *Linn.*

1. Cookia *punctata;* foliolis ovato-lanceolatis basi vix inæqualibus, floribus paniculatis.—*Retz. Obs.* 6. *p.* 29. *Lam. Ill. t.* 354.—Quinaria Lansium. *Lour. Cochin. p.* 272.—*Rumph. Amb.* 1. *t.* 55.

"The fresh leaves, when rubbed, smell like anise-seed."—*Collie, MSS.*

1. Murraya *exotica;* foliolis cuneato-oblongis obtusis coriaceis, pedunculis multifloris corymbosis, baccis submonospermis.—*Linn. Mant. p.* 393. *Lam. Ill. t.* 352.—Chalcas Japonensis. *Lour. Cochin. p.* 332. *Rumph. Amb.* 5. *t.* 18. *f.* 2.

This must not be confounded with the *M. exotica* of some Botanists, particularly of Roxburgh, *Flora Indica*, v. 2. p. 374., and n. 48 of his drawings, in the East India Company's Museum, and apparently of Dr. Wallich's List, n. 6368, which appears to be the *Chalcas paniculata* of Loureiro, the *Murraya paniculata* of Smith's Herbarium, and Rumphius' Herb. Amb. 5. t. 17, a species which is too closely allied to *M. Sumatrana.* Roxb. Hort. Bengh. p. 32, and Fl. Ind. v. 2. p. 375. With this last, is identical *M. paniculata*, Jack, and Hook. Exot. Fl. t. 79; it has the flowers terminal, and not nearly so panicled, if indeed they can be said to be so at all, as in the other species, hence, as Jack observed, the name given by him ought to be changed to *M. Sumatrana*, even although he had not given it upon the supposition that his and Loureiro's plants were the same. The true *M. paniculata* may be characterised, "foliis ovatis, floribus paniculatis;" while *M. Sumatrana* is distinguished shortly by "foliis ovatis acuminatis, floribus terminalibus subsolitariis."

1. Glycosmis *citrifolia;* foliolis 4–5-alternis oblongo-lanceolatis basi inæqualibus utrinque acuminatis integerrimis, panicula contracta racemosa, corolla campanulata, fructibus ovato-sphæroideis obliquis. *Lindl. in Hort. Soc. Trans. v.* 6. *p.* 72.—Limonia citrifolia. *Willd. Enum. p.* 448. *De Cand. Prodr. v.* 1. *p.* 536. L. parviflora. *Sims, in Bot. Mag. t.* 2416. *De Cand. Prodr. v.* 1. *p.* 536.

The genus *Glycosmis* is perhaps only distinguishable from *Limonia* by the structure of the fruit. In *Limonia*, the pericarp is tough, and resembling the rind of an orange, and the seeds are covered with pulp. In *Glycosmis*, the pericarp is fleshy, like the eatable parts of a cherry, and the seeds are destitute of pulp.—We possess *Clausena excavata*, Burm., and *Atalantia monophylla*, DC., of this Order, from near Macao, gathered by Mr. Millett.

Ord. XIV. HYPERICINEÆ. *Juss.*

1. Hypericum *Chinense; β.* caule tereti, foliis ellipticis obtusis paullo nigro-punctatis, pedunculis bibracteatis, calyce oblongo obtuso nigro-punctato, stylis coadunatis. *Chois.*—*Linn. Amæn. v.* 8. *p.* 323. *Chois. in De Cand. Prodr. v.* 1. *p.* 545.—H. monogynum. *Linn. Spec. p.* 1101. *Bot. Mag. t.* 334.—H. aureum. *Lour. Cochin.* 2. *p.* 578.

Sent also by Mr. Millett.

2. Hypericum (Tridesmos) *biflorum;* caule glabro subtereti griseo, foliis ovato-ellipticis glabris acutis vix acuminatis, sepalis æqualibus integris ovatis obtusis, glandulis tribus carnosis majusculis cum staminum phalangibus tribus alternantibus, stylis tribus stamina æquantibus. *Lam. Encycl. Meth. v.* 4. *p.* 170. *De Cand. Prodr. v.* 1. *p.* 546.—H. Chinense. *Retz. Obs.*

Bot. 5. *p.* 27. (non *Linn.*)—H. petiolatum. *Lour. Fl. Cochin.* 2. *p.* 577. (non *Linn.*)—H. Cochinchense. *Lindl. in Hort. Soc. Trans. v.* 6. *p.* 67? (non *Lour.*)—H.? carneum. *Wall. List of East India Plants, n.* 4820.

On account of the three large glandular bodies that alternate with the bundles of stamens, and which are described both by Lamarck and Loureiro, although passed over in silence by Choisy, this plant, which we have likewise received from Mr. Vachell and Mr. Millett, ought perhaps to form the type of a genus, in which might be included, *H. Cochinchense* of Loureiro, a plant with obtuse leaves, and *H.? coccineum*, Wall. List, n. 4823, if indeed this last be not the same with the species from Cochin China. Perhaps also *H.? pulchellum* and *H.? horridum* of Wallich's List, nos. 4821 and 4822, are congeners. The genus *Tridesmos* would be also distinguished from *Hypericum*, by the flowers being more or less of a red colour.

ORD. XV. GUTTIFERÆ. *Juss.*

1. Garcinia *Cochinchensis;* foliis oblongo-lanceolatis, ramulis tetragonis, floribus axillaribus vel terminalibus brevi-pedunculatis subracemosis.—*Chois. in De Cand. Prodr. v.* 1. *p.* 561.?—Oxycarpus Cochinchensis. *Lour. Cochin.* 2. *p.* 796.

Such is all the character the solitary specimen before us will permit us to give. It does not well accord with the figure quoted by Choisy, in Rumph. Amb. 3. t. 32; but it agrees better with Loureiro's description. The genera *Garcinia*, *Xanthochymus*, and *Stalagmitis* are in great confusion, and require to be studied anew from living specimens. Thus, as *Garcinia* is at present characterised by both Choisy and Cambessedes, not one species would belong to it: in all the species, the structure of the male flower is precisely as in *Stalagmitis*: and even, if we suppose the character of "stamina libera" to allude to the hermaphrodite flower alone, we shall scarcely find any but *G. Mangostana* to which it is applicable; the other species being almost without exception dioecious, and not polygamous. In some, no doubt, as in *G. paniculata*, Roxb. Fl. Ind. (with which it may be remarked, that *G. Boobicowa*, Roxb. H. Bengh. and *G. Tuntook*, Roxb. MSS. n. 1064, at the India House, are identical), there are rudiments of stamens in the female flowers: in others, there are stamina with glands instead of anthers, but such flowers cannot be termed hermaphrodite. Perhaps *Garcinia* may be restricted to the polygamous species, while *Stalagmitis* (or *Brendonia*, for we can see no difference between them) includes the truly dioecious ones. As to *Xanthochymus*, we believe all are polygamous, and have the male organs alike both in the male and hermaphrodite flowers; besides, there is in the hermaphrodite, a gland, and in the male, a lobe of the discoid torus, between each bundle of stamens, which is not to be seen in either *Garcinia* or *Staglamitis*. Cambessedes has properly removed both *Staglamitis* and *Xanthochymus* from the section, having unilocular fruit.

1. Calophyllum *spectabile;* foliis elliptico-lanceolatis aut rarius ellipticis utrinque sæpius acutis, racemis axillaribus brevissimis paucifloris, sepalis et petalis quatuor.—*Willd. Mag. Berl.* 1811. *p.* 80?—C. Soulattri. *Burm. Ind. p.* 121.—C. Suriga. *Ham. in Roxb. Fl. Ind.* 2. *p.* 608.

Choisy, in De Candolle's Prodromus, says that the flowers are loosely racemose, which is far from the case in our plant: but then he quotes, without doubt, Burman's *C. Soulattri*, to which, again, Roxburgh refers with equal certainty, as his *C. Suriga:* Roxburgh's short character, "leaves linear, oblong, polished, flowers verticilled below the leaves," belongs evidently to our species, although the flowers are really axillary, and not infra-axillary. With regard to the other species in the Flora Indica, they seem to be scarcely known, and even Dr. Wallich does not refer to Roxburgh in his List of East Indian Plants. Yet we believe there can be little doubt, when we compare the descriptions with the specimens, that *C. Bintagor*, for which Roxburgh quotes Rumph. Amb. 2. t. 71, is *C. inophyllum*, G., of Wallich's List, n. 4841; that *C. angustifolium* is Wallich's *C. pulcherrimum*, n. 4848; and that *C. lanceolarium*, is *C. Tacamahaca*, Willd. As to *C. acuminatum*, Lam., or Rumph. Amb. 2. t. 72, usually quoted under *C. spectabile*, it appears to be a distinct species, with narrow leaves, six inches or more in length.

ORD. XVI. ERYTHROXYLEÆ. *Kunth.*

1. Sethia *Indica;* foliis-obovato-oblongis obtusis. *H. B. K. Nov. Gen. et Sp.* 5. *p.* 175. (in adnot.)—Erythroxylon monogynum. *Roxb. Cor.* 1. *t.* 88. *Plukn. Amalth. p.* 87. *t.* 442. *f.* 3. (non *t.* 442. *f.* 1, 2.) *Mant.* 26 *et* 127.

ORD. XVII. MALPIGHIACEÆ. *Juss.*

1. Hiptage *Madablota;* foliis acuminatis, racemis terminalibus.

α. foliis ovato lanceolatis acuminatis.—H. Madablota. *Gærtn. Roxb. Cor.* 1. *t.* 18. *De Cand. Prodr. v.* 1. *p.* 583. (cum syn.)

β. foliis ovatis subiter acuminatis.—H. Madablota, C. *Wall. List of. E. Ind. Plants, n.* 1063.

The variety β., from *Prome* and *Martaban*, is precisely the same as in the Collection from China. There are no glands at the top of the petiole.

ORD. XVIII. ACERINEÆ. *De Cand.*

1. Acer *trifidum;* foliis circumscriptione rotundatis basi subcordatis ad medium fere trilobis subtus glaucis junioribus pubescentibus, lobis ovatis crenulato-serratis.—*Thunb. Fl. Jap. p.* 163?

ORD. XIX. SAPINDACEÆ. *Juss.*

1. Cardiospermum *Halicacabum. Linn.*

1. Nephelium *Longanum;* foliis pinnatis, foliolis sub 4-jugis oblongo-lanceolatis obtusiusculis subtus valide pinnatim nervosis glaucis supra nitidis, panicula laxa, petalis 6, bacca globosa scabriuscula.—*Camb. in Mem. Mus. v.* 18. *p.* 30.—Euphoria Longana. *Lam.*—*De Cand. Prodr. v.* 1. *p.* 611.—Scytalia Longan. *Roxb. Fl. Ind.* 2. *p.* 270.—Dimocarpus Longan. *Lour. Cochin.* 2. *p.* 288.

ORD. XX. MELIACEÆ. *Juss.*

1. Aglaia *odorata;* foliolis 2–3-jugis cum impari cuneato-oblongis obtusiusculis supra nitidis utrinque glabris. (TAB. XXXIV.)—*Lour. Cochin.* 1. *p.* 216. *De Cand. Prodr. v.* 1. *p.* 537.—Camunium sinense. *Rumph. Amb.* 7. *t.* 18. *f.* 1. *Roxb. Fl. Ind.* 1. *p.* 636. *ed. Wall.* 2. *p.* 425.—Vitex pinnata. *Linn. Burm. Fl. Ind. t.* 43. *f.* 2.—Opilia odorata. *Spr. Syst.* 1. *p.* 766.

As no satisfactory representation has yet been given of this plant, we have thought a figure made from one of Mr. Millett's specimens might not be unacceptable.

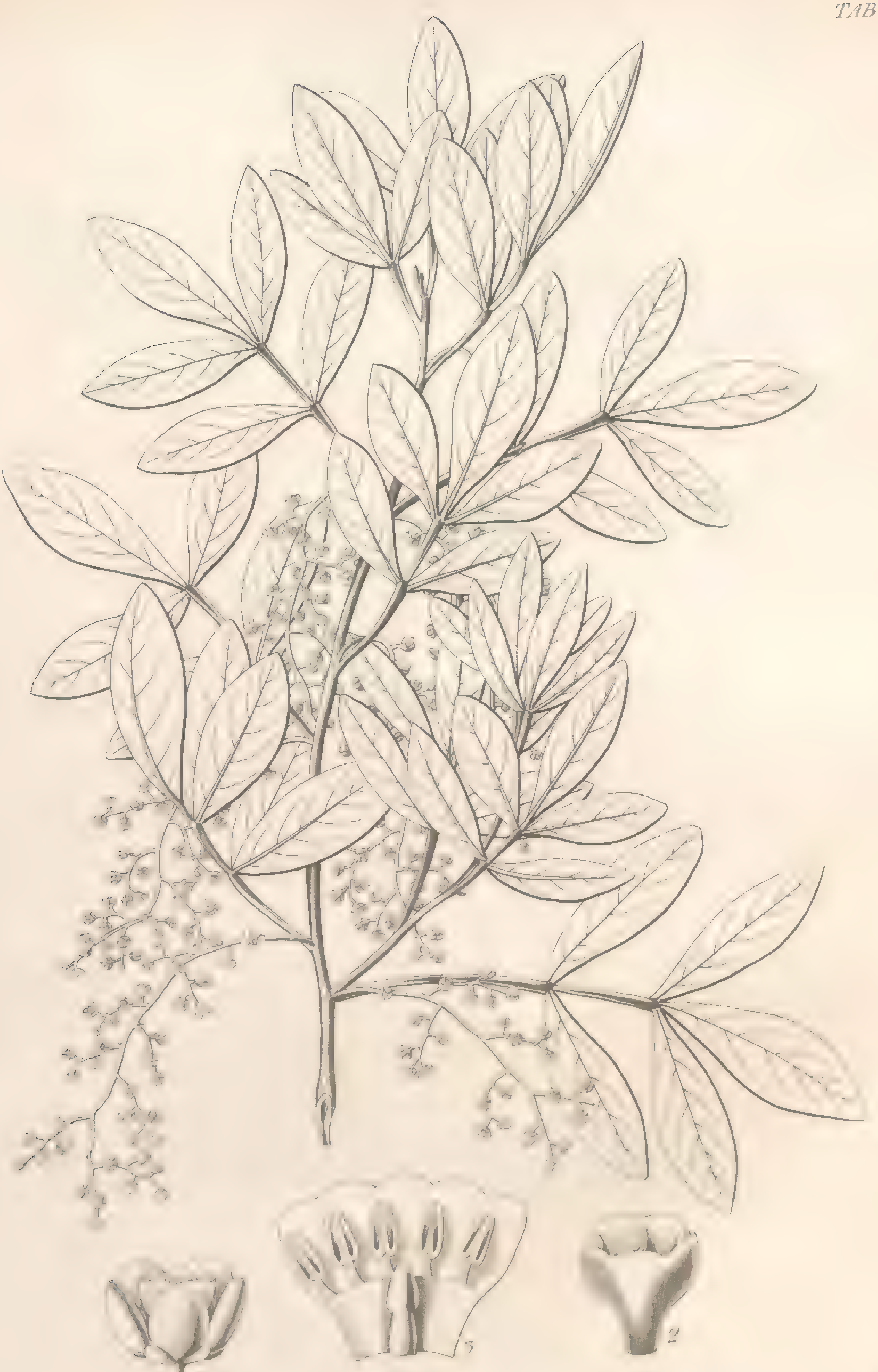
TAB. XXXIV. Aglaia odorata. *Fig.* 1, Flower; *fig.* 2, Cup of the stamens; *fig.* 3, The same laid open, showing the anthers and pistil.

1. Melia *Azedarach. Linn. Lour. Cochin.* 1. *p.* 329.

ORD. XXI. AMPELIDEÆ. *H. B. K.*

1. Cissus *Japonicus;* foliis pedato 5-foliolatis glabris, foliolis ovalibus aristato-serratis

TAB XXXIV.



Aglaia odorata.

W. J. H. del

Swan Sc.

lateralibus obtusis, pedunculis folio longioribus. *De Cand.—Willd. Sp. Pl. v.* 1. *p.* 659. *De Cand. Prodr. v.* 1. *p.* 632.

The specimen in the Collection is very imperfect, and bears rather narrower leaves than in others which we have received also from Mr. Millett: the lateral leaflets, although shorter than the others, are sometimes scarcely obtuse.

1. Cissus? *Cantoniensis;* foliis bipinnatis, foliolis glabris obovato-oblongis basi acutis apice breviter acuminatis supra medium serratis, petalis staminibusque 5.

Very closely allied to *C. orientalis*, Lam.: indeed, so much that we should not have separated them as species, were it not for the quinary arrangement of the parts of the flower in the present individual. The stamina are opposite to the petals, and inserted with them at the base of the large cup-shaped torus, which closely surrounds the germen: filaments straight, short, scarcely longer than the torus: anthers two-celled. Style short and thick. Stigma simple.

Mr. Millett has sent a species of *Vitis*, from Macao, which we can compare with no species of Vine of the Old Word, but which so closely resembles the *V. serotina* of N. America, according to specimens we possess from Mr. Nuttall, that we dare hardly venture to consider it distinct. Almost the only difference is, that our plant has the leaves rather less deeply serrated, and somewhat glaucous beneath.

Ord. XXII. OXALIDEÆ. *De Cand.*

1. Averrhoa *Carambola;* calycibus glabris, petalorum limbo subrotundo, staminibus 5, fructibus acutangulis, seminibus arillatis. *De Cand.—Linn. Sp. Pl. p.* 613. *Rumph. Amb.* 1. *t.* 35. *Rheede, Mal.* 3. *t.* 43 *et* 44.

This appears to be abundant at Macao, whence we have also specimens from Mr. Millett.—*Oxalis repens* of this Order, is also sent by Mr. Vachell from Lappas Island.

Ord. XXIII. RUTACEÆ. *Juss.*

1. Ruta *angustifolia. Pers.—De Cand. Prodr. v.* 1. *p.* 710.—R. Chalepensis. *Lour. Cochin.* 1. *p.* 330.

The petals are certainly ciliated, and not entire, or merely toothed, as in *R. graveolens*, which one would rather have expected to find in China, than the present species. Loureiro, however, mentions that it is only found in a state of cultivation.

1. Zanthoxylon *nitidum;* ramis petiolis costisque aculeatis, foliis impari-pinnatis 2–3-jugis, foliolis oblongis lucidis remote glanduloso-crenatis apice elongatis emarginatis, racemis axillaribus fasciculatis. *De Cand. Prodr. v.* 1. *p.* 727.—Fagara nitida. *Roxb. Fl. Ind.* 1. *p.* 419.—F. piperita. *Lour. Cochin.* 1. *p.* 101. *Plukn. Amalth. t.* 393. *f.* 2.

2. Zanthoxylon *Avicennæ;* aculeatum, foliis impari-pinnatis, foliolis 9–13 lanceolatis subintegerrimis glabris petiolulatis, racemis paniculatis folio brevioribus. *De Cand. Prodr. v.* 1. *p.* 726.—Z. Clava-Herculis. *Lour. Cochin.* 2. *p.* 810.—Fagara Avicennæ. *Lam. Encycl. Meth.* 2. *p.* 445.

Macao. *Mr. Millet.*—In addition to these two species, there are fragments of two others in the Collection, too imperfect for description.

1. Brucea *Sumatrana;* foliolis serratis subtus villosis racemis sæpius compositis.—*Roxb. Fl. Ind.* 1. *p.* 439. *ed. Wall.* 1. *p.* 469. *De Cand. Prodr. v.* 2. *p.* 88. B. gracilis. *De Cand.*

l. c.—Gonus amarissimus. *Lour. Cochin.* 2. *p.* 809.—Ailanthus gracilis. *Salisb.*—*Rumph. Amb. v.* 7. *t.* 15.

We believe there can exist no doubt of Salisbury's plant being identical with that of Roxburgh; the younger leaves are quite villous on both sides, and the racemes sometimes simple, in which state only Salisbury and De Candolle appear to have seen it. We possess the plant from Mr. Vachell and Mr. Millett.

Cymenosma pedunculata of this Order, has been communicated by Mr. Vachell from Hong Hong Island.

ORD. XXIV. CELASTRINEÆ. *Brown.*

1. Elæodendron *glaucum;* foliis oblongis, paniculis axillaribus dichotomis folio brevioribus, floribus pentandris, germine 2-loculari, drupa globosa sæpius uniloculari submonospermo.—*Pers. Syn.* 1. *p.* 241. *De Cand. Prodr. v.* 2. *p.* 10.—Schrebera albens. *Retz. Obs.* 6. *p.* 25. *t.* 3.—Celastrus glaucus. *Vahl. Symb.* 2. *p.* 42.—Mangifera glauca. *Rottb.*—Senacia glauca. *Lam.*—*Plukn. Amalth. t.* 407. *f.* 1?

Dr. Wallich, in his edition of Roxburgh's Indian Flora, observes how liable the leaves of *E. orientale* are to vary in shape. The same remark seems applicable to the present species: they are sometimes ovate and obtuse, sometimes oblongo-lanceolate, sometimes perfectly entire, sometimes obtusely serrated, and even some leaves are rather acutely serrated. We have always, however, seen them much longer than the petiole, and not as De Candolle says, "petiolo vix triplo longiora." Thus there does not appear to have been one character given to separate the *E. glaucum* from *E. orientale,* until the shape of the fruit was pointed out: in *E. orientale,* the drupe is oblong. Surely De Candolle must have made some mistake when he says, in the generic character, that the drupe is 5-celled, although sometimes, by abortion, with fewer cells; implying that the ovary is always 5-celled. Roxburgh and Dr. Wallich attribute only two cells to the ovary in their character of the genus; Gærtner, however, appears to have seen (Fruct. 1. t. 57.) three cells in the drupe in *E. orientale,* but Roxburgh, in his figure, at the India House, n. 73, represents only two, and occasionally one cell.

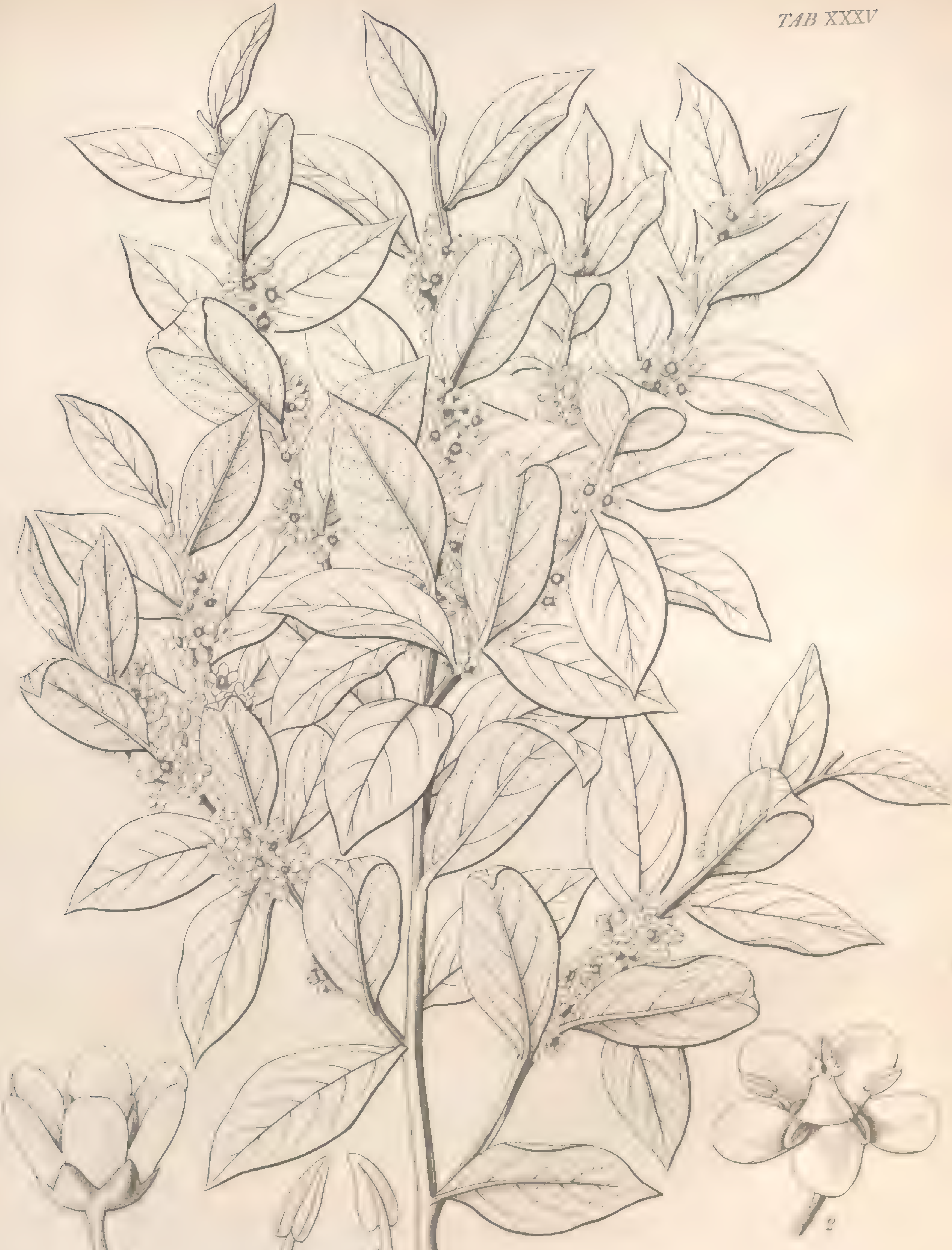
ORD. XXV. ILICINEÆ. *Brongn.*

1. Ilex *pubescens;* ramis dense pubescentibus, foliis ovato-oblongis acutis integerrimis supra sparse subtus dense velutino-pubescentibus, umbellis axillaribus subsessilibus glomeratis, calyce 5–6-fido, corolla 5–6-partita, germine 5–6-loculari. (TAB. XXXV.)

Caulis lignosus, teres. *Ramuli,* juniores præsertim, dense ac molliter pubescentes. *Folia* subcoriacea, alterna, breviter petiolata petiolo pubescenti, ovato-oblonga vel elliptico-oblonga vel etiam elliptico-lanceolata, vix acuminata, acuta, basi acutiuscula, supra glabriuscula vel potius pilis raris mollibus brevibus velutina, subtus dense ac molliter pubescentia. *Flores* hermaphroditi, numero quinario vel senario gandentes, umbellati; umbellis binis ternisve aggregatis, subsessilibus, axillaribus; pedicelli petiolum duplo triplove superantes, pubescentes. *Calyx* pubescens: segmentis rotundatis. *Corolla* petalis vix distinctis, unguibus per filamenta alternantia adglutinatis, laciniis rotundatis calyce triplo longioribus, planis patentibus. *Stamina* petalis breviora: *antheræ* adnatæ, cordato-ovatæ. *Discus* nullus. *Germen* superum, ovatum, 5–6-loculare: *stylus* nullus: *stigma* capitatum, 5–6-lobatum.

TAB. XXXV. Ilex pubescens. *Figs.* 1 and 2, Flowers; *fig.* 3, Front view of a stamen; *fig.* 4, Back view of do.:—*magnified.*

1. Prinos *asprellus;* foliis deciduis elliptico-lanceolatis attenuatis obtusiusculis, supra tuberculis raris minutis breviter piliferis subasperis subtus glaberrimis denticulato-serratis

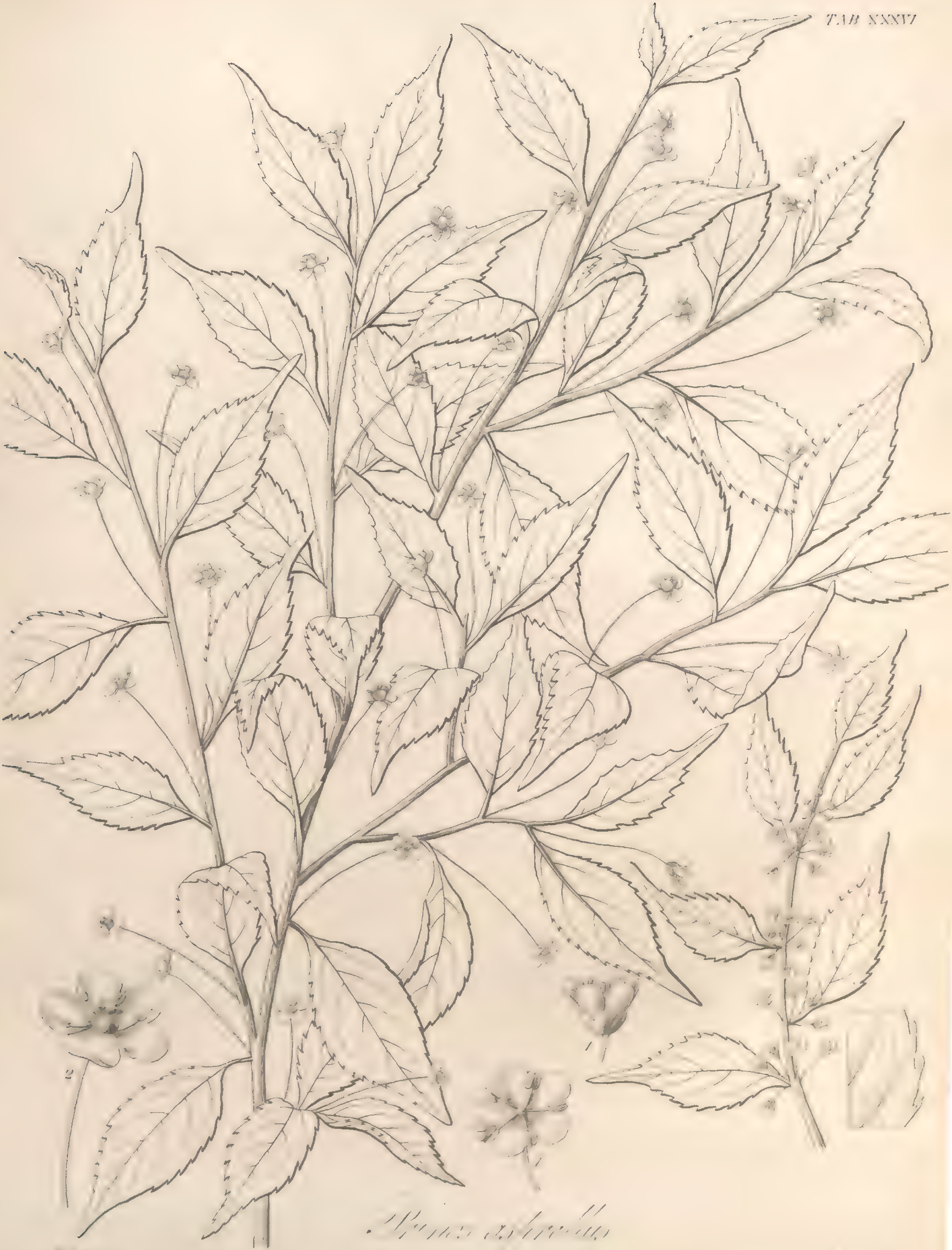


Ilex pubescens

W.H.H. del.

Swan Sc.

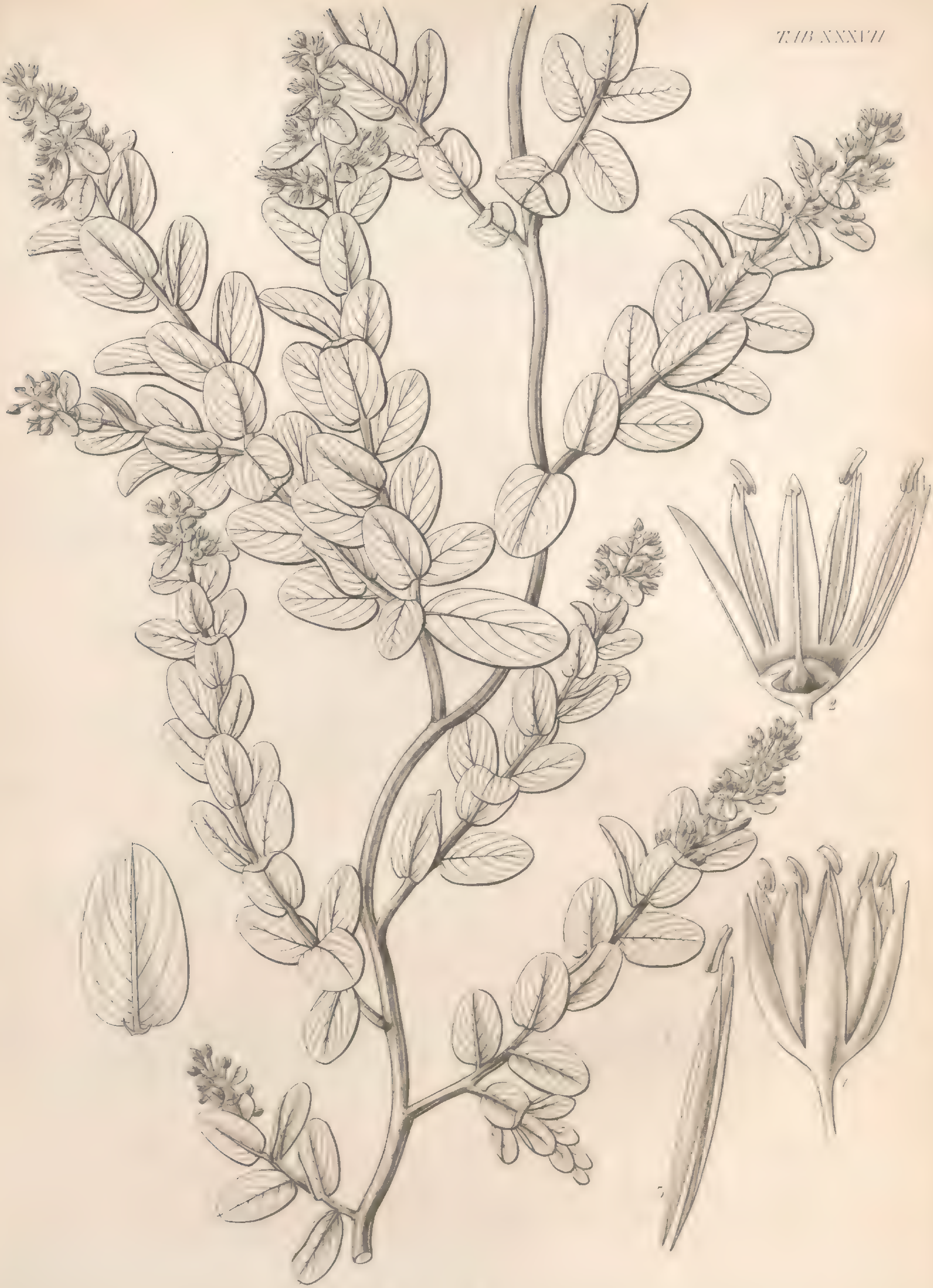
TAB. XXXVI.



Prinos asprella.

W. J. H. del.

Swan sc.



Berchemia lineata.

W.J.H. del

Swan sc.

denticulis incurvatis, floribus 5–6-fidis, pedicellis axillaribus, masculis aggregatis petiolum vix superantibus, fœmineis solitariis petiolo plus duplo longioribus.

Rami lignosi, teretes, glabri, cortice fusco. *Folia* petiolata, alterna, membranacea, decidua, ovato-vel elliptico-lanceolata, basi subacuta, apice in acumen plus minusve elongatum sublineare obtusiusculum, attenuata, denticulato-serrata, denticulis uncinatis parvis subspiniformibus incurvis, subtus glaberrima, supra punctis minutis brevissime piliferis hinc illinc adspersis asperata. *Flores* polygami. *Calyx* 5–6-fidus, adpresse sub-pilosus, segmentis rotundatis margine minute ciliatis. *Petala* 5–6, calycem plus duplo superantia: ungues ope staminum alternantium coaliti: limbi rotundati. MASC. *Discus* nullus. *Pistilli* rudimentum. FŒM. *Flores* breviter pedicellati, aggregati. *Discus* hypogynus nullus. *Pistilli* rudimentum. HERM. *Flores* solitarii, longe pedunculati. *Stamina* fertilia. *Pistillum* oblongum: germen 5–6-loculare, ima basi toro tenui cupuliformi arcte cinctum, at discus expansus nullus. *Stylus* nullus. *Stigma* capitatum, lobatum.

This is very closely allied to *P. deciduus* of North America. The male and hermaphrodite flowers appear to be always on different plants.

TAB. XXXVI. Prinos asprellus. *Fig.* 1, Male flower; *fig.* 2, Hermaphrodite flower:—*magnified.*

ORD. XXVI. RHAMNEÆ. *Juss.*

1. Paliurus *Aubletia;* aculeis duobus stipularibus rectis, foliis ovatis crenato-serratis trinerviis, corymbis axillaribus, fructu turbinato apice plano marginato, ala crassa triloba.—*Schult. Syst. v.* 5. *p.* 343. *De Cand. Prodr. v.* 2. *p.* 22.—Aubletia ramosissima. *Lour. Cochin.* 1. *p.* 348.

Only one specimen, and that in a very imperfect state, is in the Collection, but we have received others from Mr. Millett, gathered near Macao. There seem to be two forms of the plant, the one with glabrous leaves and branches, the other with both very pubescent. The last only we possess in fruit, which is also very pubescent. The ala is by no means membranaceous, nor so broad as in *P. aculeatus*, but of the same texture as the pericarp; it is three-lobed, the lobes rounded, and very slightly crenulated. In *P. aculeatus* the rim of the fruit is broad, membranaceous, crenulated, but not lobed. Loureiro unfortunately mistook the convolute petals for a series of stamens; "filamenta 10 basi fissurarum calycis *per paria* insidentia: horum 5 brevissima (the petals), 5 alia (the true stamens) triplo longiora: antheræ breviorum oblongæ, magnæ (the limb of the petals), longiorum parvæ, ovatæ." This error, indeed, De Candolle has hinted at, when he states that he had examined a specimen from Loureiro himself, and found only 5 stamens, and these concealed by the hollow limb of the unguiculate petals. We trust that the above description of the fruit will not only suffice to distinguish the species, but show the propriety of its being left in the genus *Paliurus*, where it has been hitherto placed, though doubtfully, on account of the obscurity in which the plant has been involved.

1. Berchemia *lineata;* inermis, foliis ellipticis integerrimis retusis cum mucronulo, pedunculis terminalibus vel versus ramorum apices axillaribus paucifloris, calycis limbo 5-partito, segmentis linearibus tubo multo longioribus petala stamina stylumque filiforme æquantibus. (Tab. XXXVII.)—*De Cand. Prodr. v.* 2. *p.* 23.—B.? Loureiriana. *De Cand. l. c.*—B. Poiretiana. *De Cand. l. c.*—Rhamnus lineatus. *Linn.*—*Poir. Encycl. Meth.* 4. *p.* 473. *Lour. Cochin.* 1. *p.* 196. *Pluckn. Alm. t.* 408. *f.* 3.

Rami diffusi, nonnunquam subvolubiles, glabri, nitidi: ramuli ultimi pubescentes. *Folia* alterna, brevipetiolata, elliptica, retusa, mucronulata, integerrima, bistipulata, stipulis minutis, subulatis, planis, submembranaceis vix indurescentibus, juniora subplicata, glabra, penninervia, supra viridia subtus pallida, nervis plurimis obliquis parallelis purpureo-fuscis prominulis, venis tenuibus transversalibus reticulatis instructa. *Flores* breviter pedicellati, hermaphroditi vel diclines. *Calyx* tubo brevi hemisphærico: limbi laciniis

linearibus, erectis. *Petala* cuneato-oblonga, convoluta, apice emarginata. *Stamina* 5, longitudine corollæ, petalis inclusa: *filamenta* subulata: *antheræ* ovatæ biloculares. *Discus* carnosus planus, fundum calycis tegens. *Germen* ovatum disco semi-immersum, at tamen ei non adherens, biloculare: *stylus* filiformis petala æquans, teres: *stigma* capitatum. "*Drupa* parva, oblongo-ovata, scabra, rubra; *nucula* oblonga, bisulca, bilocularis." Lour.

The above description, together with the accompanying figure, will, we trust, reclaim this beautiful species from obscurity. There cannot be the smallest doubt of its being the plant intended by Linnæus, and we think there is as little of its being that of Loureiro, notwithstanding the many little discrepancies between his account of it and ours. Loureiro states that his plant is furnished "aculeis multis, sparsis, solitariis, rectis, brevibus;" this distinction is, however, omitted by De Candolle, who says of Loureiro's plant, "ramis inermibus," and rightly, too, for it appears that Loureiro drew up this part of his character to suit Plucknet's Phyt. t. 122. f. 4, which he quotes as a synonym, but which is an East Indian, not a Chinese plant, and more allied to *Zizyphus*, if indeed it has any thing to do with this natural order. Again, Loureiro says, "folia subcrenata," which is not correct, although the leaves, from the strong nerves beneath, do exhibit a somewhat undulated margin. His "calyx 5-dentatus, minimus," is obviously a mistake for the small hemisphærical tube; while his "petala 10 lanceolata æqualia erecta," comprehend both the calycine segments and the petals, the latter being his "interiora quinque amplectentia stamina." The remainder of his description coincides with our plant. We ourselves have not seen the fruit.—We now come to Poiret's *Rhamnus lineatus*, which De Candolle makes distinct: on consulting his description, all he says of the thorns is, "les stipules forment, à la base des petioles, de petites épines très-courtes et aigues:" and these, although we agree with Linnæus in not calling them thorns, are precisely what we have seen. He describes the flowers as solitary—"solitaires et laterales dans l'aisselle des feuilles," and we have occasionally observed the racemes reduced to one flower; but we rather suspect that part of his character to be made merely to accord with Burm. Zeyl. t. 88, which he cites; and in this we are confirmed by what follows the above extract—"cependant vers l'extremité des branches elles forment souvent une petite grappe presque terminale," as in our specimens. It is obvious to any one who is in the habit of consulting the Encyclopédie Méthodique, that Poiret and Lamarck, when they had not sufficient materials of their own, borrowed from other authors without acknowledgment: and, in the present instance, not only is this true with regard to the solitary flowers, but also as to the fruit, the description of which, "une petite baie arrondie," is evidently taken from Burman's figure just quoted. Poiret's analysis of the flower, and description of the leaves, even to the little terminal bristle or mucro, exactly agree with what is now before us. Thus, we trust, we have made out satisfactorily, that the *Rhamnus lineatus* of Linnæus, of Loureiro, and of Poiret, are all one and the same plant. Of the older synonyms quoted by these authors, there can be no doubt of Plukn. t. 408. f. 3, which comes from China; but, as we have already stated, we cannot refer here to Plukn. t. 122. f. 4. As to Burm. Zeyl. t. 88, the *Berchemia Burmanniana* of De Candolle, and *Rhamnus Vitis-idæa* of Burm. Fl. Ind., it has nothing to do with this tribe of plants. Brongniart, in his Memoir on the *Rhamneæ*, has proposed to make it a new genus, near to *Andrachne*. Moon, in his Catalogue of Ceylon Plants, refers it to *Phyllanthus rhamnoides*. Dr. Wight and Mr. Arnott (Flora Penins. Indiæ Orient.) consider it identical with Plukn. Phyt. 69. f. 3, and both as referable to *Phyllanthus multiflorus* of Klein's Herbarium, and consequently of Willdenow. Perhaps Plukn. t. 122. f. 4, is a bad representation of the same plant.—Messrs. Vachell and Millett find this plant about Macao and the adjacent islands.

Tab. XXXVII. Berchemia lineata. *Fig.* 1, Flower; *fig.* 2, Section of do.; *fig.* 3, Petal and stamen.

The *Rhamnus theezans*, Linn. (*Sageretia*, Brongn.) we have received from Mr. Millett; and also the *Ceanothus Asiaticus*.

Ord. XXVII. HOMALINEÆ. *Brown.*

1. Blackwellia *fagifolia;* foliis elliptico-lanceolatis serrulatis supra glaberrimis subtus puberulis brevissime petiolatis, racemis simplicibus spiciformibus axillaribus nutantibus folium subæquantibus, floribus 6–8-andris 2–4-gynis, perianthii laciniis 12–16 subbiseri-

alibus longe ciliatis subæqualibus, interioribus (?) latioribus spathulatis.—*Lindl. in Hort. Trans. v.* 6. *p.* 270.—B. padiflora. *Lindl. Bot. Reg. t.* 1388.—Pythagorea Cochinchensis. *Lour. Cochin.* 1. *p.* 300.

It is extremely difficult to ascertain whether the narrow or broad segments of the perianth are exterior, so nearly do they all form one series: but the smaller ones will be found to form a small ridge on the tube, by their union to it, while there is a slight depression or channel from the base of the other series: on this account we have viewed the former as the exterior; but, whether they actually be so or not, it is at the base of the smaller segments that the glands are situated, the stamens being placed opposite to the broader series. De Candolle says of the genus, that the smaller ones are the interior, and opposite the stamens: perhaps different species vary in the relative size of the two series: but if not, and if it is the smaller series that is constantly exterior, a supposition confirmed by the structure of *Homalium,* then the stamens must be viewed as opposite to the exterior row, as in that genus. This plant seems very closely allied to *B. axillaris,* Lam. Ill. t. 412, f. 1, from Madagascar, where, however, the spikes of flowers are much longer than the leaves, the flowers smaller, and the leaves almost orbicular. The *B. padiflora* of Mr. Lindley, we consider to be identical with *B. fagifolia.*

The *Rhus semialata,* Murray, (*R. Javanica,* L.) is communicated by Mr. Millett from Macao.

Ord. XXVIII. CONNARACEÆ. *Brown.*

1. Connarus *Roxburghii;* foliolis 2–3-jugis ovato-oblongis breviter obtuse acuminatis subcoriaceis glaberrimis, paniculis axillaribus aggregatis folium subæquantibus, stylis 5, capsula solitaria.—Cnestis monadelpha. *Roxb. Hort. Bengh. p.* 34. *Fl. Ind.* 2. *p.* 454. *De Cand. Prodr. v.* 2. *p.* 87.

Macao. *Mr. Millett.*—Since Roxburgh says of this plant, "seed solitary, attached to the bottom of the capsule, as in the germ, ovate, invested in a complete orange-coloured aril: perisperm none," with which our observations accord, we trust there can be no doubt about the propriety of removing this species from *Cnestis* to *Connarus.* The same plant has been collected by Dr. Wight in the peninsula of India, so that its geographical distribution is tolerably extensive. On account of the firm and almost coriaceous nature of the leaves, the nerves and venation are not prominent, by which character it may be readily distinguished from *C. santaloides,* where the veins are prominent and reticulated beneath.

2. Connarus *microphyllus;* foliolis 5–6-jugis oblongo-lanceolatis obtusis glabris vix coriaceis supra nitidis junioribus subtus glaucis venis prominulis, petiolis ramulisque glaberrimis, racemis axillaribus laxis paucifloris folio plus dimidio brevioribus.—Aegiceras minus. *Gærtn. Fruct.* 1. *t.* 46.

This species is very closely allied to *C. mimosoides* of Vahl, from the Nicobar Islands, which has also small leaflets, scarcely an inch long: but *C. mimosoides* is described with from 9 to 11 pairs, and they are said to be deeply emarginate. In Vahl's plant, too, the younger branches appear to be pubescent. Although, therefore, we acknowledge the close affinity of the two, we cannot unite them. The figure given by Gærtner, of his *Aegiceras minus,* so entirely accords with the fruit of our plant, both as to size and shape, that we have quoted it without hesitation: we ought to remark, however, that Roxburgh has pointed out its affinity to his *Cnestis monadelphus,* the fruit of which is considerably larger; and Sprengel has quoted it without doubt, under *C. santaloides.* In structure, it accords perfectly with the last species, and with the genus.

3. Connarus? *juglandifolius;* foliolis 4–5-jugis ovato-oblongis subiter acuminatis acutissimis obliquis subfalcatis supra nitidis glaberrimis, petiolis ramulisque glaberrimis, paniculis apices versus ramorum axillaribus, fructu (juniore) compresso oblique ovato.

We have neither seen the flowers nor the germens, the only specimen in the Collection having the latter

considerably swelled, in which we have only been able to trace one ovulum suspended from a funiculus that rises from the very base of the cell. If there be really only one ovulum in the germen, this plant must not only be removed from *Connarus*, but from the tribe, and be placed near to *Pistacia;* in which case it may, with the *P. oleosa* of Loureiro and De Candolle, be referred to Dr. Hamilton's genus, *Cussambium.* (Wern. Trans. v. 5. p. 256.) Against this, however, the structure of the advanced germen seems considerably to militate, being compressed, and evincing a tendency to split readily, nor does the epicarp separate, as in the case of *Pistacia,* and other young drupes. We are therefore inclined to suppose, that there may actually be two ovula present in the unimpregnated germen, and we place it in *Connarus.*

ORD. XXIX. LEGUMINOSÆ. *Juss.*

1. Crotalaria *retusa. Linn. Sp. Pl. p.* 1004.—Lupinus Cochinchensis. *Lour. Cochin.* 2. *p.* 520?

2. Crotalaria *Vachellii;* stipulis subulatis aculeiformibus minutis recurvis, foliis trifoliolatis, foliolis oblongis subretusis cum mucronulo subtus adpresse pubescentibus subpellucido-punctatis petiolum duplo longioribus, racemis patentibus subelongatis oppositifoliis, leguminibus globosis breviter pedicellatis hirsutis styli basi indurato uncinatis.

This species is exceedingly common at Canton, but we have not been able to discover that it is noticed by Loureiro. It approaches very close to *C. virgata,* Kœn. and Roxb. (n. 373 of his drawings at the India House,) or *C. divaricata,* Graham, in Wallich's Catalogue of East India Plants. The stems are herbaceous, but what the duration of the plant may be we are ignorant. It belongs to a small groupe, proposed by Mr. Brown to constitute a genus, *Cyrtolobus;* but as no character of it is yet published, we have no means of judging of its validity, and therefore leave it in *Crotalaria. Clavulium* of Desvaux, (Ann. Sc. Nat. v. 9. p. 407,) another genus, consisting of species removed from *Crotalaria,* is not distinct from it, or it must comprehend many more species than the two pointed out by the Author.

1. Melilotus *leucantha. Koch.*

Dr. Graham (Wallich's List of E. I. Plants, n. 5942,) appears perfectly correct in uniting this with *M. altissima,* Thuill. Perhaps, therefore, the latter name ought to be retained as the oldest; but *M. leucantha* is not only more expressive, but more generally adopted by Botanists. In like manner *M. Indica* is also superseded; it being no way distinct from *M. parviflora,* and is generally diffused throughout the world.

1. Indigofera *hirsuta;* caule suffruticoso erecto, ramis teretibus, petiolis pedunculisque hirsutis, foliis pinnatim 3–5-jugis, foliolis obovato-oblongis obtusis utrinque villosis, racemis folio longioribus, leguminibus tetragonis 6-spermis pendulis hirsutis. *De Cand.—Linn. Sp. Pl. p.* 1062. *De Cand. Prodr. v.* 2. *p.* 288. *Burm. Zeyl. t.* 14. *Lam. Ill. t.* 626.

1. Lourea *vespertilionis;* foliolis lateralibus nullis aut minimis, terminali transversim et falcatim oblongo subemarginato longitudine decies latiore. *De Cand.—Desv. Journ. Bot.* 3. *p.* 122.—Hedysarum vespertilionis. *Linn.*

1. Desmodium *polycarpum. De Cand. Prodr. v.* 2. *p.* 334. (non *Wall.*)—D. angulatum. *De Cand. l. c. p.* 335. (*sec. specimen e Wallich, et in* "*List of E. Ind. Plants,*" *n.* 5729.) D. purpureum. *Hook. et Arn. supra, p.* 62.—D. Hippocrepis. *De Cand. l. c. p.* 338.—Hedysarum purpureum. *Roxb. Hort. Bengh. p.* 57.—H. polycarpum. *Poir. in Encycl. Meth.* 6. *p.* 41.—Hippocrepis barbata. *Lour. Cochin.* 2. *p.* 553. *Burm. Zeyl. t.* 53. *f.* 2. *Lam. Ill. t.* 628. *f.* 4.

It is unnecessary to repeat here the character we have already given of this species; but we may remark that the racemes of flowers are terminal as well as axillary. We place little dependence on the slightly angled stems: indeed, if Dr. Wallich be correct in uniting the *Hedysarum purpureum* and *Desm. angulatum*, we must almost suspect some error in the description given by De Candolle, as we have never observed the stems more angled than is usual in most species of the genus, where it is owing to the petioles being slightly decurrent. It is more than probable that several other species ought to be joined with it.

1. Lespedeza *Chinensis;* erecta, petiolis brevibus, foliolis oblongo-obovatis retusis mucronatis subtus strigoso-pubescentibus, racemis brevissimis breviter pedunculatis, leguminibus lævibus calyce æqualibus. *G. Don, in Mill. Dict. v.* 2. *p.* 307.

We cannot but consider this plant as distinct from Linnæus' *Hedysarum junceum*, (*Lespedeza juncea*, Pers. and De Cand.) which has the leaves linear and cuneate; as it assuredly is from the *L. juncea* of Dr. Wallich, Cat. n. 5743, of which we possess specimens from that munificent Naturalist. Another and Siberian species has been named *L. Pallasii* by Mr. G. Don, in his edition of Miller's Dictionary, although he does not appear to be aware that it has been described and figured by Pallas, (Itin. App. 8. p. 394. t. 81. f. 4,) under the name of *Trifolium? hedysaroides*, and has actually been introduced into the genus *Trifolium*, in De Candolle's Prodromus, v. 2. p. 204. n. 114.

1. Abrus *precatorius. Linn.*

1. Rhynchosia *volubilis;* caule herbaceo volubili villoso tereti, foliolis subrotundo-ovatis supra molliter pubescentibus subtus velutino-tomentosis, racemis axillaribus folio brevioribus, leguminibus ovatis velutinis dispermis.—*Lour. Cochin.* 2. *p.* 562. *De Cand. Prodr. v.* 2. *p.* 385?

We think there is no doubt of our plant being that of Loureiro; although De Candolle, who examined an original specimen, says that the racemes are longer than the leaves; it is probable, however, that he only saw specimens in fruit, in which state the racemes might be elongated, although in the specimens we possess, with fully formed legumes, the racemes are still shorter than the leaf.

1. Soja *hispida. Mœnch.*

1. Cajanus *bicolor. De Cand. Prodr. v.* 2. *p.* 406. *Rheede, Hort. Mal.* 6. *t.* 13.

The specimen before us agrees exactly with what we possess from Dr. Wallich under the same name; but we cannot perceive any constant mark to allow of its separation from *C. flavus*, the number of seeds being very apt to vary.

1. Pongamia *Chinensis;* foliolis 2–3-jugis ovato-oblongis acutis glabris, racemis axillaribus folio duplo triplove brevioribus, pedicellis verticillatis calycem subæquantibus ante anthesin recurvis. *De Cand. Prodr. v.* 2. *p.* 416.—Robinia mitis. *Lour. Cochin.* 2. *p.* 556.

We believe this to be Loureiro's *Robinia mitis;* and as he mentions that it is a shrub only three feet high, while the *P. glabra* is a lofty tree, we have been induced to give a character that may more effectually separate the two.

1. Inga *dulcis;* spinis stipularibus brevissimis rectis, foliis bigeminis, foliolis subdimiato-oblongis obtusis subretusis cum mucronulo, glandula in petioli dichotomia et inter foliola, petiolo hirto foliolis breviore, florum capitulis globosis racemosis, leguminibus tortis.—*Willd. Sp. Pl. v.* 4. *p.* 1005. *De Cand. Prodr. v.* 2. *p.* 436.—Mimosa dulcis. *Roxb. Cor.* 1. *t.* 99.

2. Inga *dimidiata;* ramis angulatis, foliis bipinnatis pinnis 4-jugis, pinnulis inferioribus 4–5-superioribus sub 9-jugis, glandula ad basin petioli tetragoni communis et inter omnes pinnas

atque foliola, foliolis trapezoideo-ovatis supra nitidis inferioribus parvis superioribus sensim triplo majoribus, florum capitulis paniculatis.

No *Inga*, hitherto described, appears to agree with this, which has also been sent us by Mr. Millett. The petiole is quadrangular, the pinnæ being inserted on each side of the upper angle, on the sharp edge of which, therefore, are seated the glands. The leaflets resemble those of what we possess under the name of *I. fagifolia.*

3. Inga *bigemina?* inermis, foliis conjugato-pinnatis, pinnarum foliolis 3–4-jugis oblongo-lanceolatis supra nitidis, glandula sessili ad medium petioli communis et inter omnia foliola, unica pedicellata in dichotomia, florum capitulis paniculatis, legumine torto.—*Willd. Sp. Pl. v.* 4. *p.* 1007?

If the figure of Rheede, Hort. Mal. 6. t. 12, which is usually referred to, be considered a correct representation, then our plant must be a different species: our character is therefore drawn up from the specimens in the Collection. Willdenow does not notice the gland about the middle of the common peduncle, otherwise his description accords pretty well. Vahl, however, (Symb. 2. p. 103.) says, "glandula in petiolo communi ad basin partialium et inter singulum par pinnularum," which seems to imply that he had observed it.

1. Acacia *frondosa. Willd. Sp. Pl. v.* 4. *p.* 1076?

We have so named this on the authority of our friend Dr. Wight, the specimen in the Collection being exceedingly imperfect. We have, however, quoted Willdenow with doubt, as the leaflets are smooth beneath, and only pubescent on the margin, and as we have not been able to discover a gland between the lower pinnæ; but we observe glands between the lower leaflets.

1. Cæsalpinia *Millettii;* pinnis 7-jugis, foliolis 15–18-jugis oblongis obtusis basi obliquis subtus puberulis, aculeis parvis subtus inter pinnas, caule superne petiolisque dense pubescentibus, panicula elongata, calyce glabro.

Although we do not possess the fruit, we believe this species will be found to belong to the section "*Sappania.*" The specimen in the Collection is destitute of leaves, and is only in bud, so that we have had recourse to specimens sent long ago by Mr. Millett, after whom we have named it.

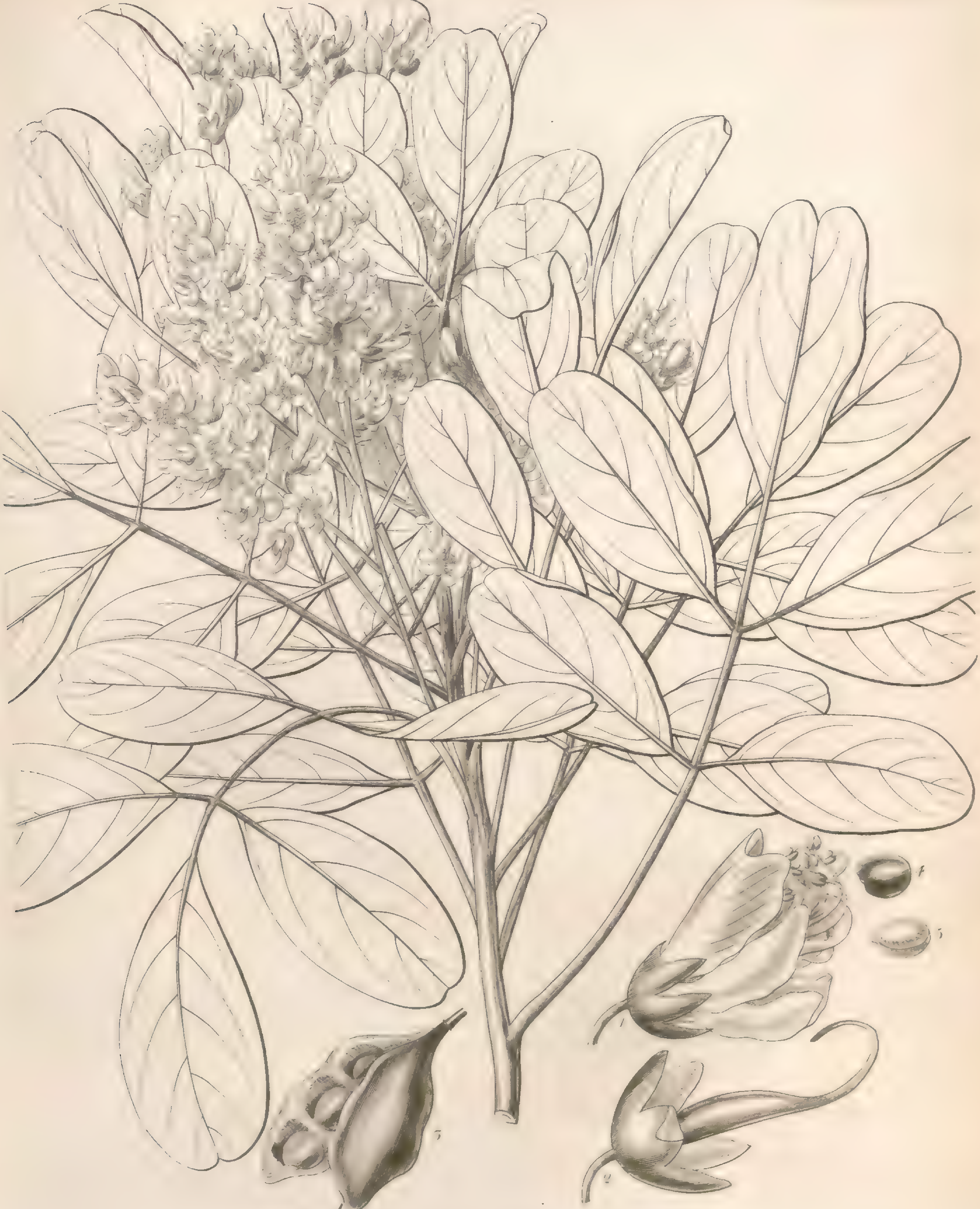
2. Cæsalpinia *Chinensis?;* pinnis bijugis, foliolis bijugis elliptico-oblongis utrinque obtusis coriaceis glabris supra lucidis, racemis axillaribus pedunculatis recurvis, petiolo communi ultra pinnarum par inferius sparse minute aculeato.—*Roxb. Fl. Ind.* 2. *p.* 361?

Roxburgh's plant had not flowered, but he describes the stem as scandent, (a point we cannot determine in the specimen in the Collection) and the "pinnæ and leaflets of from two to three pairs." In the two or three leaves in our specimen, they are constantly two pairs. It probably belongs to the section "*Nugaria.*" The leaflets are precisely as in *C. Sumatrana*, Roxb.

LAYIA. *Hook. et Arn.*

Calyx cyathiformis, profunde 5-fidus, segmentis duobus superioribus brevioribus vix bilabiatus, intus pubescens. *Petala* (staminaque) toro inserta, longitudine subæqualia, unguiculata, flava. *Vexillum* subrotundum: *alæ carinaque* (quorum petala libera distincta) oblonga, concava. *Stamina* 10. *Filamenta* libera, quorum 3 inferiora longiora; omnia sursum curvata. *Antheræ* subrotundæ. *Ovarium* oblongo-lanceolatum, compressum, glabrum, breviter stipitatum, 3–4-ovulatum in stylo sursum curvatum, subulatum, attenuatum. *Stigma* simplex. *Legumen* oblongo-ellipticum, utrinque acutum, brevissime stipitatum, 3–4-spermum, isthmis spongioso-fibrosis, spurie 3–4-loculare, loculis subpulposis: *valvis* crassis, atris, planis, coriaceo-lignosis. *Semina* rotundato-tetragona, subcompressa, ruberrima. *Funiculus umbilicalis* luteus.—Frutices *seu* arbores. Folia

TAB XXXVIII.



Layia emarginata.

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pinnata, bijuga cum impari: foliola *majuscula, petiolulata, oblongo-obovata, coriacea, nitida, glaberrima, minute reticulata, obtusa, emarginata.* Stipulæ *obsoletæ vel deciduæ.* Paniculæ *axillares, terminalesque.*

1. Layia emarginata. (Tab. XXXVIII.)

Captain Beechey's Collection contains only the foliage and ripe fruit of this plant; but we have the good fortune to possess from Mr. Millett, specimens in flower, and are thus enabled to describe the plant as a genus hitherto unknown to authors. It is indeed probable that the *Macrotropis* of De Candolle, (*Anagyris fœtida*, and *A. inodora* of Loureiro), may have affinity with this plant; but the rounded many-seeded fruit, and the "folia multijugata" of the former, forbid the two to be united.

Tab. XXXVIII. Layia emarginata. *Fig.* 1, Flower; *fig.* 2, Calyx and Pistil:—*magnified. Fig.* 3, Legume; *fig.* 4, Seed; *fig.* 5, Embryo:—*natural size.*

1. Bauhinia *variegata. Linn.*

In the specimen before us, the leaves are puberulous beneath, and not glabrous, as described by De Candolle; at the same time we think it must be his var β. *Chinensis.* Roxburgh, in his Indian Flora, vol. 2. p. 319, says, that the leaves are "somewhat villous underneath," so that they appear to vary considerably in that respect. *B. candida* seems a very closely allied species, if, indeed, it be really specifically distinct. De Candolle places the two in very different sections, but perhaps the only discrepancies are in the colour of the flowers, and the presence or absence of sterile filaments between the five fertile stemens.

2. Bauhinia *retusa. Roxb. Hort. Bengh. p.* 31. (non *Poir.*) *Flor. Ind.* 2. *p.* 322. *De Cand. Prodr. v.* 2. *p.* 515.—B. emarginata. *Roxb. MSS. et Icon. in Mus. E. I. C. n.* 1237. *Wall. Cat. of E. Ind. Plants, n.* 5792.

Only two leaves have been collected, but we trust there is no doubt as to the identity of the plant. From Roxburgh's description, it seems to belong to De Candolle's section, *Phanera.*

3. Bauhinia *corymbosa;* scandens, ramis teretibus cirrhiferis, foliis basi cordatis subtus in nervis petiolis ramulis calycibusque rufo-pilosis, foliolis semiovalibus obtusis parallelis ad medium concretis 2–3-nervibus, corymbis terminalibus sessilibus, staminibus tribus fertilibus petala ovata stipitata margine crispa subæquantibus, germine stipitato, stipite tubo calycis adnato, leguminibus linearibus 6–12-spermis.—*Roxb. Hort. Bengh. p.* 31. *Fl. Ind.* 2. *p.* 329. *De Cand. Prodr. v.* 2. *p.* 515. *Leg. Mém. p.* 487. *t.* 70.—B. scandens. *Burm. Fl. Ind. p.* 94. (non *Linn.*)

One of the most elegant and delicate of the genus. Roxburgh says of it, "Stem scarcely any thing that deserves the name, but many long slender branches and branchlets climb and spread in every direction, to an extent of many fathoms, running over high trees," &c. De Candolle's figure and description represents the fertile stamens shorter than the petals: in our specimens, they are sometimes longer, but usually about the same length.

4. Bauhinia *scandens. Linn.* (*excl. syn. Rheede.*)—B. Lingua. *De Cand. Prodr. v.* 2. *p.* 516. *Rumph. Herb. Amb.* 5. *t.* 1.

Of this, only a fragment exists in the Collection, and we have referred it to the *B. scandens,* chiefly on account of the rusty coloured pubescence on the under side of the leaves, notwithstanding that each segment has only three nerves. Much confusion prevails about this species, and we shall therefore make no apology for transcribing the following description from Rumphius: "Tenera folia complicata sunt instar libri, interne penitus viridia et glabra externe quodvis segmentum per sex virides costas longitudinales distinguitur, atque ruffum, et ad tactum instar serici molle est, sine notabili tamen lanugine, et quodammodo splendens: seniora folia sese aperiunt seu explicant, suntque superne viridia, inferne gilva: eadem ruffa lanugo in petiolis et ramulis supremis observatur, quoque folia sint vetustiora, eo magis inferne glauca sunt." De

Candolle attributes only three nerves to each segment of the leaf. Roxburgh's *B. scandens* (Fl. Ind. 2. p. 326,) has glabrous leaves and orbicular petals, and is now called *B. macrostachya* by Dr. Wallich, in his List of East Indian Plants, n. 5774.

In addition to the above species of this Order, Mr. Millett and Mr. Vachell have detected *Crotalaria calycina*, Schrank, *C. variegata*, Wall., a very fine *Tephrosia* near *T. Heyneana*, Wall., *Uvaria crinita*, DC., *Dicerma elegans*, De Cand., *Rhynchosia virgata*, Wall. Cat., *Desmodium triquetrum*, DC., *Alysicarpus monilifer*, DC., *Lablab vulgaris*, Savi, *Pachyrhizus angulatus*, Rich., *P. trilobus*, DC., *Dalbergia scandens*, Roxb., and *D. latifolia*, Roxb., *Arachis hypogea*, L., *Poinciana pulcherrima*, L., *Cassia Thora*, L., *C. bicapsularis*, L., (according to Wall. Cat.,) and a new species? and *C. Fistula*.

Ord. XXX. ROSACEÆ. *Juss.*

1. Kerria *Japonica*. *De Cand. Linn. Soc. Trans. v.* 12. *p.* 156.

We regret to say that the flower is double, as in all the specimens we have yet seen.

2. Spiræa *lanceolata;* foliis oblongo-lanceolatis glaberrimis subtus glaucis obtusiuscule serratis, corymbis umbelliformibus paucifloris glabris ad apices ramulorum brevium lateralium, pedicellis gracilibus, staminibus uniserialibus, disco 10-partito.—*Poir. Encycl. Meth. v.* 7. *p.* 354. *Cambess. in Ann. Sc. Nat. v.* 1. *t.* 25. *De Cand. Prodr. v.* 2. *p.* 542.—S. Cantoniensis. *Lour. Cochin. v.* 1. *p.* 394.—S. corymbosa. *Roxb. Fl. Ind. v.* 2. *p.* 512?

S. corymbosa of Roxburgh, we believe to be the cultivated state of this plant, more especially as he says, in his Flora Indica, that it is a native of China; he adds, however, that it is also a native of the Mountains north of India, from which he seems to confound it with *S. callosa*, Thunb. (the *S. Bella* of Sims, Bot. Mag. t. 2426.) The figure among his drawings, n. 949, at the India House, is not like either, having neither the lateral few-flowered slender umbels of the one, nor the corymbose panicle of the other. Mr. Lindley has accordingly, in Wallich's List of E. I. Plants, n. 701. p. 21 and 248, considered it as probably a variety of *S. chamædrifolia*.

1. Rubus *parvifolius;* caule prostrato tereti, ramis tomentosis, aculeis numerosis recurvis, foliis pinnato-trifoliolatis foliolis subrotundis basi cuneatis inciso-serratis impari sæpe incisolobato supra glabris viridibus subtus tomentosis, stipulis subulatis, floribus paucis laxe racemosis terminalibus, laciniis calycinis ovato-lanceolatis.—*Linn. Sp. Pl. p.* 707. *Lour. Cochin. v.* 2. *p.* 398. *De Cand. Prodr. v.* 2. *p.* 563.—R. triphyllus. *Thunb. Fl. Jap. p.* 215.

It is singular that Seringe, in De Candolle's Prodromus, and Mr. G. Don, in Miller's Dictionary, both refer to *R. parvifolius* of Thunberg, when no such plant is described by him. We have, however, brought hither as a synonym *R. triphyllus* of that Author, on the authority of a specimen from Nagasaki in Japan, in Mr. Arnott's Herbarium, from Dr. Fischer of St. Petersburg, and agreeing minutely with Thunberg's description. Linnæus's plant was given him by Osbeck, and is most probably therefore from China; but he and succeeding Botanists have surely erroneously referred to Rumphius, Herb. Amb. v. 5. t. 47. f. 1. This last species has ovato-lanceolate leaves, and seems to be what Chamisso and Schlechtendal have described as *R. Tagallus*, (Linnæa, v. 2. p. 9): if, however, it has tomentose leaves, but Rumphius does not say so, it may rather form a species with what Thunberg calls *R. Idæus*, but which can scarcely be the same with the Europæan plant.

2. Rubus *reflexus;* ramis teretibus rufo-tomentosis, aculeis parvis sparsis foliisque oblongocordatis 3–5-lobis infra dense tomentosis lobo terminali elongato venis reticulatis numerosissimis, stipulis bracteisque lanatis fimbriatis, racemis spiciformibus interruptis folio plus

dimidio brevioribus, laciniis calycinis ovatis obtusiusculis corollam æquantibus.—*Bot. Reg. t.* 461. *De Cand. Prodr. v.* 2. *p.* 566.—R. Mollucanus. *Lour. Cochin. v.* 1. *p.* 396. (non *Linn.*) —R. alceæfolius. *Poir. Encycl. Meth. v.* 6. *p.* 247.

Dr. Wallich proposes to unite this species to *R. rugosus*, as a variety: the shape of the leaves and of their lobes, is, however, considerably different. In cultivation the racemes are almost abortive, and very short; but in the wild specimens they are two or three inches long. It is probable that *R. Lambertianus* may be a nearly glabrous variety, but we are not acquainted with it. Seringe, in addition to the character he has given of it in De Candolle's Prodromus, writes: " cette espece n'a rien qui frappe l'œil, mais elle me parait se distinguer aux lobes de ses feuilles cordiformes assez semblables par leur grandeur et leur circonference aux feuilles d' *Althæa officinalis:* Les rameaux sont cylindriques, comme granuleux par une poussiēre flocconeuse qui leur couvre:" Its native country also is China.

1. Rosa *microphylla;* aculeis ad petioli basin rectis, stipulis angustissimis infra adnatis superne divaricato-liberis, foliolis 5-9 ellipticis nitidis glabris argute serratis, floribus solitariis, calyce aculeis densissimis muricato, sepalis brevibus late ovatis apiculatis margine pubescentibus.—*Roxb. Fl. Ind.* 2. *p.* 515. *Lindl. Ros. p.* 146. *Ser. in De Cand. Prodr. v.* 2. *p.* 602.

This has much the appearance of *R. bracteata*, but we have not been able to perceive the involucral bracteas which characterise the section to which that species belongs.

1. Raphiolepis *Indica;* foliis cuneato-ovatis plus minusve acuminatis, petalis ovatis acutis staminibus calyce brevioribus. *Lindl. Linn. Soc. Trans. v.* 13. *p.* 105. *De Cand. Prodr. v.* 1. *p.* 630.—Cratægus rubra. *Lour. Cochin. v.* 1. *p.* 391.

Although we have retained the above specific name for this species, yet we entertain very great doubts as to its being the plant intended by Linnæus. Since, however, Mr. Lindley has paid much attention to the subject, we prefer following him and De Candolle to changing the names they have given. Loureiro's *Cratægus Indica*, and we think also of Linnæus, has lanceolate leaves, and belongs to *R. phæostemon* of Lindley: while *C. rubra*, Lour. we have referred here, our specimens having generally the leaves " cuneiformi-ovata," as that Author describes. The *R. rubra*, Lindl., is very distinct.

1. Photinia *serrulata;* foliis oblongis acutis serrulatis subtus glanduloso-punctatis, pedicellis calyce longioribus. *De Cand.*—*Lindl. in Linn. Soc. Trans. v.* 13. *p.* 103. *De Cand. Prodr. v.* 2. *p.* 631.—Cratægus glabra. *Thunb. Fl. Jap. p.* 205. *Bot. Mag. t.* 2105.

β. *prunifolia;* foliis ellipticis basi acutis apice vix acuminatis serrulatis, paniculæ terminalis corymbosæ ramis ramulisque strigoso pubescentibus, pedicellis calyce longioribus.

The shape of the leaf in our β. is so very different from that of α., as almost to justify our considering the two distinct species. We were inclined to refer it to *P. lævis* of De Candolle, the *Cratagus lævis* of Thunberg, which appears to have the leaves of the same shape; but that species is described " florum umbella subsimplici," which cannot at all apply to our plant. In addition to these two states, we possess also from China, a third, from the late Dr. Livingstone, (very closely allied to *Ph. Sieboldi*, of G. Don in Miller's Dict., or *Maskilea Sieboldi*, Blume,) which may be thus characterised:—δ. *obovata;* foliis cuneato-obovatis obtusis e basi ad apicem serrulatis, panicula terminali corymbosa laxa, pedicellis pubescentibus calyce longioribus.—The leaves are all strongly emarginate in our specimen, but this may perhaps be accidental: they are also furnished beneath with very dark brown glands; an appearance which may have been produced by the specimens having been sent to this country in water saturated with salt, since neither of the other varieties has the glands so deeply coloured.—We possess *Eriobotrya Japonica* from Mr. Millett.

Ord. XXXI. MEMECYLEÆ. *De Cand.*

1. Memecylon *scutellatum ;* ramulis teretiusculis, foliis brevissime petiolatis ellipticis basi acutis apice subiter brevi-attenuatis coriaceis uninerviis, pedunculis axillaribus et e nodis infra folia brevibus paucifloris, racemis folio multo brevioribus, toro 8–10-costato, germine uniloculari, ovulis 8–10 circa receptaculum breve e fundo ortum orbiculatim dispositis.—Scutula scutellata. *Lour. Cochin. v.* 1. *p.* 290. *De Cand. Prodr. v.* 3. *p.* 7.

The interior of the germen is marked with eight or ten ridges, corresponding with the number of ovules; these probably become more apparent as the fruit swells, giving the appearance which Louriero describes in rather anomalous language, " bacca 8-locularis, monosperma." It is, however, only one-celled, and one-seeded, as in the rest of the genus. The flower-buds are about the size of the seed of *Vicia lathyroides.*

2. Memecylon *nigrescens ;* ramis teretibus, foliis ovato-ellipticis basi acutis apice obtuse breviter acuminatis pergamaceis uninerviis nigrescentibus breve petiolatis, floribus minutis numerosis in capitula globosa densa ad nodos infra folia sessilia digestis, germine uniloculari 8–10-ovulato.

The whole head of flowers is scarcely so large as a small pea, and consists of at least forty or fifty flowers, so minute as to render their structure difficult of determination. The torus appears to be grooved, as in the last species, and the germen one-celled: but it is probable that these characters are common to most of the genus, at least we have not been able to detect any true dissepiments in such species as we have examined. The interior of the germen is, however, marked with ridges, which at first sight might induce one to suppose that it contained more than one cell.

Of the Order *Granateæ,* Mr. Millett sends *Punica Granatum, flore pleno.*

Ord. XXXII. COMBRETACEÆ. *Brown.*

1. Quisqualis *indica ;* pubescens, bracteis ovato-rhombeis aristato-acuminatis sub quoque flore, petalis ovali-oblongis adpresse pubescentibus. *De Cand.—Linn. Sp. Pl. p.* 556.—*Rumph. Amb.* 5. *t.* 38. *Bot. Mag. t.* 2033. *Lam. Ill. t.* 357. *De Cand. Prodr. v.* 3. *p.* 23.

Of the Order *Onagrariæ,* we possess from Mr. Millett and Mr. Vachell, *Jussieua fruticosa,* DC., and *J. repens,* L., both from Lappas Island.

Of the Order *Lythrarieæ,* we have beautiful specimens of *Lagerstræmia Indica,* L., and *L. Reginæ,* Roxb.

Ord. XXXIII. TAMARISCINEÆ. *Desv.*

1. Tamarix *Chinensis ;* ramis nutantibus, foliis minutissimis imbricatis acutis, spicis paniculatis tenuibus longis, petalis linearibus erectis. *De Cand.—Lour. Cochin. v.* 1. *p.* 228. *De Cand. Prodr. v.* 3. *p.* 96.—T. Gallica *b.* Chinensis. *Ehrenb. in Linn. v.* 2. *p.* 267.

The specimens before us are destitute of flowers, and will not permit us to decide whether or not Ehrenberg is right in reducing it to *T. Gallica.*

Ord. XXXIV. MELASTOMACEÆ. *Juss.*

1. Melastoma *Malabathricum ;* fruticosum, ramulis tetragonis strigoso-asperis, foliis elliptico-oblongis basi obtusis apice acutis integerrimis utrinque viridibus strigoso-scabris, corymbis 1–5-floris, calycis adpresse squamuloso-strigosi lobis ovatis acutis, staminibus alternis, con-

nectivo brevissimo et longissimo. *De Cand.—Linn. Sp. Pl. p.* 559. *De Cand. Prodr. v.* 3. *p.* 145.—M. septemnervium. *Lour. Cochin.* 1. *p.* 335. *De Cand. l. c. p.* 147.—*Rheede, Mal.* 4. *t.* 42.—*Rumph. Amb.* 4. *t.* 72.

The nerves of the leaves are generally five in number; sometimes they are reduced to three, and we have seen, in a specimen we have from Canton, as many as seven, in which state the species forms Loureiro's *M. septemnervium.*—Mr. Vachell and Mr. Millett find the *Melastoma macrocarpum,* Don, and a variety of *Osbeckia Chinensis,* with narrow leaves, (the *O. angustifolia,* Wall.) and with a glabrous calyx.

ORD. XXXV. ALANGIEÆ. *De Cand.*

1. Marlea *begoniifolia; Roxb. Cor.* 3. *t.* 283. *Fl. Ind.* 2. *p.* 261. *De Cand. Prodr. v.* 4. *p.* 267.—Stylidium Chinense. *Lour. Cochin.* 1. *p.* 272.—Stylis Chinensis. *Poir. Encycl. Meth. Supp.* 5. *p.* 266.—Pautsauvia, *Juss. in Dict. Sc. Nat. v.* 51. *p.* 1. *f.* 182.

We have retained, along with De Candolle, the generic name given by Roxburgh, but we scarcely know why the older one of *Stylis* is not retained.

ORD. XXXVI. MYRTACEÆ. *Juss.*

1. Baeckea *frutescens;* foliis linearibus muticis, pedicellis axillaribus unifloris, dentibus calycinis membranaceis coloratis. *De Cand.—Linn. Sp. Pl. p.* 514. *Hook. in Bot. Mag. t.* 2802.

1. Syzygium? *buxifolium;* arbuscula? ramis teretibus, ramulis alato-tetragonis, foliis ovatis obtusis coriaceis pellucido-punctatis margine pellucido, corymbis axillaribus terminalibusque folio demidio brevioribus 3–5-floris, calyce 4-lobo, tubo obovato.

The petals appear to be distinct, hence our doubts as to the genus; towhich many species are now referred, of which the petals do not fall off like a calyptra. The tube of the calyx is obovate, with four angles: the limb is four-lobed, the undivided part being lined with the torus; lobes ovate, slightly carinate. Stigma simple. The leaves are from half-an-inch to an inch long; although we have described them as ovate, yet they vary occasionally to oblong, to cuneato-oblong, and even to cuneato-obovate: we have always found them obtuse.

2. Syzygium *odoratum;* foliis oblongo-lanceolatis basi acutis apice longe attenuatis subimpunctatis coriaceis supra nitidis, pedunculis terminalibus cymoso-paniculatis, calycis tubo obovato, bacca globosa monosperma.—*De Cand. Prodr. v.* 3. *p.* 260?—S. lucidum, *Gærtn.?* —Opa odorata. *Lour. Cochin.* 1. *p.* 377.

Our plant agrees much better with the description given by Loureiro, than with the character of De Candolle. It ranks, as a species, very near to *S. Zeylanicum,* and *S. politum,* Wall., from which two it principally differs by the short, not elongated, tube of the calyx. The berry appears to be white. The specimen in the Collection is destitute of flower and fruit, our character of these being taken from specimens sent by Mr. Millett and Mr. Vachell. We possess, by the liberality of the same gentlemen, some other species, among which, are *S. nervosum,* De Cand., *S. fruticosum,* De Cand., and one or two apparently undescribed.

1. Myrtus *tomentosa;* pedunculis 1–3-floris folio brevioribus sub flore bracteolas duas ovatas gerentibus, ramis calycibusque velutinis, foliis ovato-ellipticis superne adultis glabris subtus cano-tomentosis 3-nerviis nervis lateralibus submarginalibus, calyce 5-fido, seminibus compressis in loculo quoque biserialibus.—*Ait. Hort. Kew.* 2. *p.* 159. *De Cand. Prodr.*

v. 3. *p.* 240. *Bot. Mag. t.* 250. *Roxb. Fl. Ind.* 2. *p.* 498.—M. canescens. *Lour. Coch.* 1. *p.* 381. *Roxb. Fl. Ind.* 2. *p.* 498.—*Plukn. Phyt. t.* 372. *f.* 1.

Roxburgh in his Flora Indica, introduces this species, both under Aiton's and Loureiro's names; but this, we think, is obviously a mistake of the printer, as the one is introduced without synonyms, and the other without a specific character.

1. Psidium *pyriferum. Linn. Sp. Pl. p.* 672.—*Rumph. Amb.* 1. *t.* 47. *Rheede, Mal. t.* 34.

2. Psidium *pomiferum. Linn. l. c.*—*Rumph. Amb.* 1. *t.* 48. *Rheede, Mal.* 3. *t.* 35.

The number of flowers varies from one to three on the peduncle, and the shape of the fruit is scarcely more constant than in a common pear, so that no character is left to separate this and *P. pyriferum*, except the larger size of the whole plant in the latter.—We have also, from Mr. Millett, *P. pumilum*, Vahl, which leads us to suspect, that *P. caninum* of Loureiro, is referable to that plant: the leaves, however, are decidedly opposite and entire, not alternate and serrated, as he describes them.

1. Jambosa *vulgaris. De Cand. Prodr. v.* 3. *p.* 286.—Eugenia Jambos. *Linn.*—*Roxb. Fl. Ind.* 2. *p.* 494.

2. Jambosa Malaccensis. *De Cand. Prodr. v.* 3. *p.* 286.—Eugenia Malaccensis. *Linn.*

From Mr. Millett and Mr. Vachell, we possess of the Order *Cucurbitaceæ*, the *Cucumis sativus*, L., *Momordica Charanta*, L., and *M. monadelpha*, Roxb. MSS.

ORD. XXXVII. PORTULACEÆ. *Juss.*

One mutilated specimen of a plant of this Order is in the Collection, of the genus of which we are uncertain.—It may be thus described:—

Caulis fruticosus, ramosus, teres, carnosulus, ad foliorum insertiones nodulosus. *Folia* opposita, exstipulata, lineari-lanceolata, acuta, carnosa, basi in petiolum angustata; petiolo basi dilatato semiamplexicauli. *Panicula* terminalis, subcorymbosa. *Calyx* 5-partitus; segmentis oblongis, obtusis, membranaceis. *Corolla* . . . . . *Squammulæ* 5, oblongæ, parvæ, ad basin sepalorum, iisque oppositæ. *Filamenta* 15? (an potius 10?) quinque ante squammulas, cætera ad latera earum affixa. *Capsula* unilocularis, trivalvis, ab apice at basin dehiscens. *Semina* plurima placentæ centrali funiculis capillaribus brevibus adnexa, planiuscula, subreniformi-orbicularia, tuberculata.

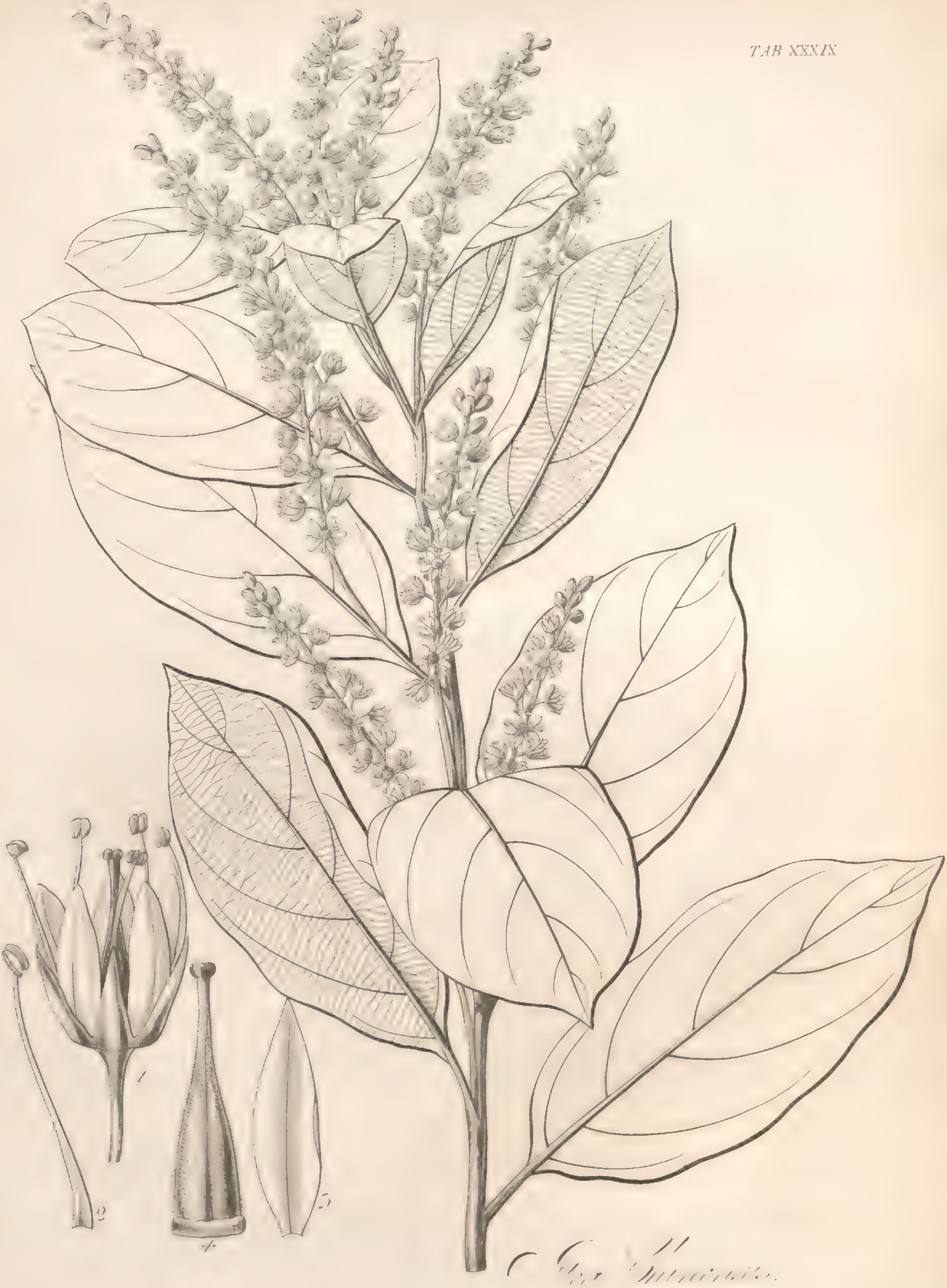
The seeds not being perfectly mature, we cannot ascertain their internal structure: the albumen appears farinaceous. On removing some of the scales from the bottom of the calyx, one filament is seen to be constantly attached to them in front, and another at each side, hence we presume the number of filaments to be fifteen: but in other of the scales, we could not observe the lateral filaments; and in some, we only saw a filament at one of the sides; hence we doubt whether the complete number might not be ten, five opposite to the scales and sepals, and five alternating with them. But whether all of them, or which of them bear anthers, we could not ascertain, they having all dropped off. In some points, this plant approaches to *Talinum.*

Of the Order *Paronychieæ*, Mr. Millett and Mr. Vachell find the *Polycarpæa corymbosa*, Lam.

ORD. XXXVIII. CRASSULACEÆ. *De Cand.*

1. Kalanchoe *spathulata;* foliis obovato-spathulatis crenatis glabris, infimis obtusis, superioribus acutis, cyma paniculata laxa. *De Cand. Prodr. v.* 3. *p.* 395. *Pl. Grass. t.* 65.—Cotyledon spathulata. *Poir. in Encycl. Meth. Suppl.* 2. *p.* 373.

This species seems only to differ from *K. Ægyptiaca* by the yellow not orange coloured flowers, which is surely an insufficient character.



Clethra tinifolia.

W.J.H del.ᵗ

Swan sc.

ORD. XXXIX. FICOIDEÆ. *Juss.*

1. Mesembryanthemum *cordifolium. Linn.—De Cand. Prodr. v.* 3. *p.* 449. *Pl. Grass. t.* 102.

Most probably cultivated.

1. Tetragonia *expansa. Ait. Hort. Kew.* 2. *p.* 178. *De Cand. Pl. Grass. t.* 114. *Prodr. v.* 3. *p.* 452.

ORD. XL. SAXIFRAGEÆ. *Juss.*

Trib. ESCALLONIEÆ. *De Cand.*

1. Itea *Chinensis;* foliis elliptico-oblongis acutiusculis denticulatis, racemis spiciformibus axillaribus solitariis binisve folium subæquantibus. (TAB. XXXIX.)

Frutex? glaber. *Rami* lignosi, teretes. *Folia* alterna, exstipulata, breviter petiolata, elliptico-oblonga, vix subiter obtuse attenuata, margine supra medium denticulato-serrata, denticulis versus apicem frequentioribus, infra medium integerrima, coriacea, glabra, penninervia, nervis obliquis distantibus sursum prope marginem curvatis, venosa, venis transversalibus plurimis, 3 uncias longa vix 1½ lata. *Petioli* semiunciam longi, rugulosi. *Racemi* axillares, solitarii binive, versus apice ramorum conferti, multiflori, ad basin fere usque floriferi folio subæquantes: rachi angulata. *Flores* albi, vix approximati; *pedicelli* solitarii, bini, ternive, flores subæquantes, fere 1½ lineas longi, filiformes, basi bracteola parva subulata instructi. *Calyx* 5-partitus; segmentis subulatis; sinubus obtusis. *Petala* 5, summo calycis tubo inserta, ejusque lobis alterna iisque duplo fere longiora, lineari-lanceolata, medio nervo fusco longitudinali notata. *Stamina* 5, petalis alterna, et iis longiora: *antheræ* cordato-ovatæ, biloculares, longitudinaliter dehiscentes. *Pistillum* oblongum, attenuatum, bipartibile, ad basin glandula annulari crassa cinctum. *Germen* pubescens, liberum, 2-loculare, e carpellis duobus margine introflexis et placentiferis conflatum; *ovula* plurima suspensa. *Stylus* simplex; *stigma* capitatum, sulco medio bilobum. *Fructus* . . . .

We trust there can be no doubt of this being a true species of *Itea.* In some points it approaches to *I. macrophylla*, Wall. in Roxb. and Wall. Fl. Ind. 2. p. 419; but that is described with a half inferior germen, surrounded by an obscurely lobed concave fleshy disc, and has lately been referred, with doubt, to Wallich's new and undescribed genus, *Kurrimia*, among the *Celastrineæ.* The present does not appear to be rare at Canton, but we do not find it in Loureiro's Flora Cochinchensis. Mr. Lindley, some years ago, according to a specimen in Dr. Hooker's Herbarium, considered it as perhaps a species of *Astranthus*, but this opinion was probably given more from the general habit of the plant, than from an examination of the flowers. *Itea Rasmarinus*, Roem. and Schult., or *Cedrela Rosmarinus*, Lour., has surely nothing to do with this genus.

TAB. XXXIX. Itea Chinensis. *Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Petal; *fig.* 4, Pistil, with its anuular gland:—*magnified.*

ORD. XLI. UMBELLIFERÆ. *Juss.*

1. Torilis *Japonica;* caule glabriusculo tereti ramoso, foliis pubescentibus bipinnatisectis, segmentis oblongis pinnatifidis, umbellis pedunculatis axillaribus et terminalibus 5-7-radiatis, involucro utroque oligophyllo brevi-subulato, mericarpiis oblongis, setis rigidis apice uncinatis. *De Cand. Prodr. v.* 4. *p.* 219.—T. scabra. *De Cand. l. c.*—Caucalis Japonica. *Houtt.*—C. orientalis. *Lour.?* (non *Linn.*)—Chærophyllum scabrum. *Thunb. Fl. Jap. p.* 119.

ORD. XLII. ARALIACEÆ. *Juss.*

1. Paratropia *Cantoniensis;* caule arborescente, foliis longe petiolatis digitatis, foliolis 5–9 ellipticis basi acutiusculis apice subiter brevi-acuminatis subcoriaceis glabris, racemo terminali

furfuraceo, floribus subfasciculatis decandris, stigmate sessili 10-fido.—Aralia octophylla. var. Cantoniensis. *Lour. Cochin. v.* 1. *p.* 233.

We believe there can be no doubt of this being the plant of which Louriero says: "Nascitur prope Cantonem in Sinis hujus plantæ (*Araliæ octophyllæ*) varietas, ni velis species, caule, foliis et habitu florum omnino similis; differt autem staminibus decem et stigmate 10-fido;" on which account we have introduced that latter character. The specimens which we possess from Mr. Millett, however, have the flowers unexpanded: that in Capt. Beechey's Collection consists only of a leaf. The "calyx truncatus" and "stigmata sessilia" obviously point out the genus *Paratropia*, rather than *Aralia*. As a species, it comes very near to *P. pergamacea*, De Cand.

Pranax aculeatam, Ait., we possess from Mr. Millett and Mr. Vachell.

Ord. XLIII. LORANTHACEÆ. *Don.*

1. Viscum *ovalifolium*. *Wall.—De Cand. Prodr. v.* 4. *p.* 278.

Ord. XLIV. CAPRIFOLIACEÆ. *Juss.*

1. Viburnum *adoratissimum;* sempervireus, glabrum, foliis coriaceis elliptico-oblongis subintegerrimis, thyrso opposite brachiato, ramulorum pedunculis trichotomo-pedicellatis, stylo simplici brevi, bacca oblonga. *Ker, in Bot. Reg. t.* 456? *De Cand. Prodr. v.* 4. *p.* 326?—V. Chinense. *Zeyh.?*

Folia petiolata, glabra, 3–8-uncias longa, duas lata, basi acuta, quandoquidem acuminata, apice obtusa vel subiter ac brevi-acuminata, subcoriacea, integerrima vel remote subdentata, costa media nervisque lateralibus subtus prominulis, venis transversalibus conspicuis. *Stipulæ* nullæ. *Calycis* tubus oblongus: limbus brevis, obtuse 5-dentatus. *Corolla* infundibuliformis: tubus brevis: limbus patens, 5-partitus, lobis rotundato-ovatis: faux intus nuda. *Stamina* 5, e summo corollæ tubo orta: *filamenta* ejus lobos æquantia, sub apice arcte inflexa: *antheræ* oblongæ. *Stylus* crassus, brevissimus, calycis limbum paullo superans. *Stigma* capitatum, 3-lobum. *Bacca* (immatura) oblonga, apice paullum angustata, dentibus calycinis coronata, (abortu forsitan) unilocularis, monopyrena. *Pyrena* pergamacea, alba, dorso convexa lævissima, intus sulco longitudinali (instar species *Cypræœ* generis *Testacearum*) notata, secusque sulcum baccæ lateri affixa.

This has scarcely at all the appearance of a *Viburnum*, from which genus the presence of a style seems essentially to distinguish it. Indeed, were it not that we have been unable to discover any trace of stipules, it would seem to rank nearer the *Rubiaceæ:* and it had been previously marked in our Herbaria, under the MSS. name of *Coffea monosperma*. Hook. et Arn.

2. Viburnum *nervosum;* sempervireus, foliis elliptico-lanceolatis basi apice acutis glabris subtus impunctatis serraturis utrinque versus apicem paucis, nervis supra impressis subtus prominulis ad axillas glabris, venis transversalibus numerosis conspicuis, petiolis pedunculisque brevibus glabris, corymbo terminali.

This is closely allied to *V. premnaceum*. Wall.: the leaves have the same kind of nervation; but in the Indian plant we observe, besides the characters given by De Candolle, (Prodr. v. 4. p. 325,) that the axillæ of the nerves are furnished with a tuft of short hairs, which are totally absent in the Chinese plant.

We possess a third species of *Viburnum*, as far as we can judge from the very young flowers, from Mr. Millett, which may be thus distinguished:—*V? Chinense;* foliis membranaceis lato-ellipticis acutis grosse inæqualiter dentatis, supra glabris subtus præcipue junioribus puberulis impunctatis, corymbis terminalibus pubescentibus.

1. Lonicera *Telfairii;* ramis volubilibus glabris junioribus pubescentibus, foliis petiolatis

oblongis acutis basi obtusis cordatisve adultis supra glabris subtus dense velutino-pubescentibus, pedunculis apice bibracteatis bifloris axillaribus solitariis petiolo demidio brevioribus, terminalibus subcapitatis, calycis villosi dentibus minutis ovatis acutis, corollæ tubo elongato æquali villoso.—L. Periclymenum. *Lour. Cochin. v.* 1. *p.* 185.

We first became acquainted with this species by specimens sent from the Mauritius by Mr. Telfair to Dr. Hooker; but it is only there probably in a state of cultivation. It is closely allied on the one hand to *L. confusa*, De Cand, from which it differs by the leaves being smooth above, and the short peduncles; and on the other to *L. Leschenaultii*, Wall., which, however, is said to have ovate subcordate ciliated leaves, and villous branches. This, with many others in the section " Nintooa" of De Candolle, might with justice be referred to the old *L. Japonica*, a species which has been perhaps too much dismembered.

Ord. XLV. RUBIACEÆ. *Juss.*

1. Adina *globiflora;* foliis ovato-lanceolatis, pedunculis folio brevioribus.—*Sal. Par. Lond. t.* 115. *De Cand. Prodr. v.* 4. *p.* 349.—Nauclea Adina. *Sm. Bot. Mag. t.* 2613.

The specimen before us has the leaves considerably broader than is figured in the Bot. Magazine, which makes us suspect that *A. peduncularis*, De Cand., or *Nauclea adinoides*, Lindl., is a mere variety.

1. Mussænda *pubescens;* foliis ovato-oblongis acuminatis in nervis pubescentibus, stipulis utrinque geminis subulatis, corymbo terminali, lobis calycinis subulatis, uno petiolato ovato acuto, corollæ tubo gracili calycem plus duplo superante, lobis acutis. *Ait. Hort. Kew. ed* 2. *v.* 1. *p.* 372. *Bot. Mag. t.* 2099. *De Cand. Prodr. v.* 4. *p.* 371.—M. frondosa. *Lour. Cochin. v.* 1. *p.* 188. *Rumph. Amb. v.* 4. *t.* 51.

Notwithstanding such high authorities, we can scarcely consider this as distinct from *M. frondosa:* indeed the principal point of difference appears to be that, in the latter, the leaves and panicle are described as villous. Some Authors add that in *M. frondosa* the tube of the corolla is scarcely longer than the calycine segments, while in *M. pubescens* it is more than twice as long; and this may be true if the figure in Burman, Zeyl. t. 76, where it is so represented, be considered the type of the species and where the flowers are described as red; but then if the *Belilla* of Rheede, Hort. Mal. v. 2. t. 18, (not 17, as quoted by Roxburgh, Wallich, and De Candolle,) be the same, the calycine segments are remarkably short in comparison with the tube of the corolla. The *Belilla* of Rheede is, however, probably distinct, and the same may be said of *M. Sumatrana*, Roth., although we suspect there is a mistake regarding the red coloured corolla in both the plant of Rheede and of Burman. After a careful comparison of Rumphius' figure, in the Herb. Amb. v. 4. t. 51, and of his description of his *Folium Principissæ angustifolium*, we feel inclined to refer it here rather than to *M. glabra*, under which it is quoted by Vahl and De Candolle. Perhaps also *M. frondosa*, Roxb. Hort. Bengh. and Fl. Ind. v. 2. p. 557, as well as of Roxb. et Wall. Fl. Ind. v. 2. p. 227, Wall. List of E. I. Plants, n. 6250, a–e, and *M. Dovinia*, Ham. in Linn. Trans. v. 14. p. 203, who refers to the figure in Rumphius, as identical with *M. pubescens*, which, in cultivation in this country, has frequently the whole underside of the leaves pubescent.

1. Gardenia *florida;* inermis fruticosa erecta, foliis ellipticis utrinque acutis, floribus solitariis subterminalibus sessilibus subhypocraterimorphis, calycis laciniis verticalibus lanceolato-subulatis tubum corollæ æquantibus, baccis elongato-turbinatis costatis. *De Cand.—Linn. Sp. Pl. p.* 305. *Ker, in Bot. Reg. t.* 449. *De Cand. Prodr. v.* 4. *p.* 379.—*Pluku. Amalth. t.* 448. *f.* 4.

1. Randia *Sinensis;* spinis brevibus oppositis subrecurvis, foliis (lanceolatis *Lour.*) superioribus ovatis lævibus glabris, corymbis terminalibus parvis paucifloris, calycis limbo tubuloso

5-lobo, lobis subulatis, corollæ tubo longo glabro fauce haud inflato, antheris linearibus exsertis corollæque laciniis subæquelongis patentibus. *Roem. et Schult. Syst. v.* 5. *p.* 248. *De Cand. Prodr. v.* 4. *p.* 388.—Randia longiflora. *Lam. Ill. t.* 156. *f.* 3? *De Cand. l. c. p.* 386. (cum synon.)?—Oxyceros Sinensis. *Lour. Cochin. v.* 1. *p.* 187.

The specimen before us is no doubt very imperfect, only exhibiting the upper part of a branch; but notwithstanding that the leaves are ovate and somewhat obtuse, we believe it to be the same species that Louriero had in view. We have not seen more than two flowers in the corymb; but it is probable that better specimens may exhibit more. As to *R. longiflora*, figured by Lamarck, and described by Roxburgh, under *Posoqueria longiflora*, we can discover no difference, except that the leaves and flowers are slightly larger, and the latter more numerous. De Candolle says of this genus, " Antheræ intra faucem sessiles inclusæ;" but in several species the anthers are exserted, as in *R. longispina*, *nutans*, *floribunda*, and *horrida*, in addition to the present species; and in *R. fasciculata* and *rigida* they are exserted for one-half and two-thirds of their length. From *Gardenia*, however, to which it is most nearly allied, (not *Posoqueria*, as is stated by mistake in De Candolle's Prodr. v. 4. p. 385,) it differs by the bilocular germen and fruit.

1. Cupia *corymbosa;* fruticosa, foliis lanceolato-oblongis nitidis, corymbis terminalibus, calycis lobis quinque tubum corollæ fere æquantibus, stigmate indiviso, capsulis maturis 4-spermis. *De Cand. Prodr. v.* 4. *p.* 394.—Webera corymbosa. *Willd. Sp. Pl. v.* 1 *p.* 1224. *Bot. Reg. t.* 126.—Canthium corymbosum. *Pers.*—Cupi. *Rheede, Mal. v.* 2. *t.* 23.

The specimens in the Collection have the leaves narrower and more acuminate than in the figure in the Hort. Malabaricus, which exactly agrees with specimens we have received from Dr. Wight, from the Peninsula of India; but we do not consider them as a distinct species.—Another *Cupia*, as it appears to be, from the habit and appearance of the fruit, (which, however, contains several seeds,) we have received from Professor Lindley, and the late Dr. Livingstone. It may be called *C. mollissima;* fruticosa, foliis lanceolatis utrinque sed subtus præcipue pilis brevibus numerosissimis mollissimis, calycis lobis brevibus obtusissimis, fructibus pubescentibus polyspermis.—The hairs which clothe every part of the plant are of a rusty hue.

1. Hedyotis *macrostemon;* suffiruticosa? ramosa, ramis pubescentibus, foliis breviter petiolatis ovato-lanceolatis subtus molliter pubescentibus supra nitidulis scabriusculis venis longitudinalibus simplicibus parallelis, pedunculis axillaribus solitariis folio multo brevioribus multifloris, floribus capitatis, staminibus longe exsertis, capsula hirsuta apice libera.

This approaches very closely to *H. ulmifolia*, Wall., also to *H. lineata* of Roxburgh; but as far as we can judge from the character given in the Flora Indica, it is quite distinct. The specimen in the Collection is only in fruit. We are so fortunate as to possess beautiful flowering specimens from Mr. Millett, and also likewise, another species with a habit not very dissimilar, which may be characterised thus:—*H. uncinella;* suffruticosa glabra, ramis subsimplicibus, foliis petiolatis oblongo-lanceolatis venis longitudinalibus subsimplicibus parallelis, floribus axillaribus terminalibusque numerosis glomerato-verticillatis subsessilibus, capsula turbinata glabra tubo calycis contracto ejusque dentibus subulatis recurvato-uncinatis longe ciliatis coronata septicida! bipartibili; but this may perhaps form the type of a new genus, to which, judging from the habit, for our specimens are not sufficiently advanced, it is probable that *H. cephalophora*, Brown in Wall. List of E. Ind. Plants, n. 842, may belong. In addition to these, we have also from China, the *H. angustifolia*, Cham. and Schlecht.

1. Canthium *Chinense;* fruticosum spinosum, foliis obovatis, floribus sessilibus hirsutis pentandris, fructu biloculari. *De Cand.*—*Pers. Syn.* 1. *p.* 200. *De Cand. Prodr. v.* 4. *p.* 475.—Gardenia spinosa. *Thunb.*

There is only one specimen in the Collection, and that so imperfect, as to prevent our solving the doubts about its being properly referred to this genus.

1. Ixora *stricta;* foliis subsessilibus oblongo-lanceolatis, corymbo denso composito hemisphærico, lobis calycinis subacutis corollæ (flammeæ) obovatis obtusissimis, stylo glaberrimo, stigmate paullulum exserto, antheris apiculatis.—*Roxb. et Wall. Fl. Ind. v.* 1. *p.* 384. *De Cand. Prodr. v.* 4. *p.* 486.—I. coccinea. *Bot. Mag. t.* 169. *Lour. Cochin. v.* 1. *p.* 95.—I. speciosa. *Willd. Enum.*

1. Pavetta *Indica. Linn. Sp. Pl. p.* 160. *Bot. Reg. t.* 198. *De Cand. Prodr. v.* 4. *p.* 490.—P. alba. *Vahl.*—Ixora Pavetta. *Roxb.*—I. alba. *Burm. Fl. Ind.*—*Lour. Cochin. v.* 1. *p.* 96.

1. Coffea *Arabica. Linn. Sp. Pl. p.* 245. *De Cand. Prodr. v.* 4. *p.* 499. *Lour. Cochin. v.* 1. *p.* 179.

1. Grumilea *Reevesii;* glabra, foliis oblongo-lanceolatis basi apiceque acutis glaucis lævibus coriaceis, stipulis late ovatis obtusis adpressis semivaginantibus deciduis, corymbo terminali trichotomo foliis multo breviori, calycis limbo obscure quinquedentato, corollæ brevis fauce dense barbata, stylo basi toro subgloboso cincto, fructus pyrenis dorso 5-costatis.—Psychotria Reevesii. *Wall. in Roxb. et Wall. Fl. Ind. v.* 2. *p.* 164. *De Cand. Prodr. v.* 4. *p.* 519.

Calycis limbus læviter 5-dentatus, dentibus obtusis. *Corollæ tubus* subcampanulatus, fauce intus niveo-villosa; limbus 5-partitus; laciniis lanceolatis acutis. *Stamina* brevia, inter villos faucis latitantia. *Germen* toro elevato, hemisphærico, carnoso, styli basin cingente coronatum. *Stylus* capillaris. *Stigma* crassiusculum, bilobum. *Bacca* drupacea, globosa, dipyrena, calycis limbo coronata. *Pyrenæ* chartaceo-coriaceæ, plano-convexæ, dorso 5-costatæ. *Semen* plano-convexum. *Albumen* cartilagineum, ruminatum, rimis ac fissuris lobulatum. *Embryo* parvus, læviter curvatus, prope seminis basin situs.

The above character and description will, we trust, distinguish this from the species of *Grumilea* already described, and others which we have reason to believe are still retained under *Psychotria.* Perhaps even the generic character, depending principally on the structure of the albumen, is not sufficient; and it is considerably invalidated by the following species of *Psychotria.*

1. Psychotria *scandens;* caule lignoso scandente radicante ramoso, foliis breviter petiolatis oblongis obtusiusculis basi attenuatis coriaceis glabris, stipulis ovatis obtusis interfoliaceis deciduis, corymbo terminali subsessili (vel foliis supremis deciduis pedunculato) divaricato subsimplici paucifloro, corollæ tubo subcampanulato fauce alba villosa, toro subgloboso elevato styli basin cingente, stigmate capitato subbilobo, fructu ellipsoideo, albumine subruminato!

Calycis limbus 5-dentatus; dentibus brevibus obtusis. *Corolla* campanulato-infundibuliformis: tubus brevis; faux intus villo albo copioso instructa. *Bacca* oblonga, exsiccatione costata, dentibus calycinis coronata, dipyrena. *Pyrenæ* plano-convexæ, extus 5-sulcatæ. *Albumen* 5-sulcatum, læviter ruminatum, at nec rimis nec fissuris lobulatum.

This species forms a small groupe with *P. laxiflora, leucocarpa,* and *sarmentosa* of Blume, and *P. serpens,* Linn. The three first of these we have not seen, the last we only possess in flower. If the seeds of all prove to have a ruminated albumen, they might be judiciously removed to *Grumilea.* We shall here add, from specimens from Canton, the following description of *P. serpens,* Linn. to what De Candolle (Prodr. v. 4. p. 519,) has given:— *Calyx* breviter obtuse 5-dentatus. *Corolla* campanulato-infundibuliformis: faux villo albo copioso instructa. *Stylus* apice clavatus, basi toro elevato globoso carnoso cinctus. *Stigma* indivisum.

1. Serissa *fœtida. Commerson in Juss. Gen. p.* 209. *De Cand. Prodr. v.* 4. *p.* 575.—Lycium Japonicum. *Thunb. Fl. Jap. t.* 17. *Bot. Mag. t.* 361.—Dysoda fasciculata. *Lour. Cochin. v.* 1. *p.* 181.

The specimens in the Collection are destitute of flowers and fruit.

In addition to the above, we possess, from Mr. Vachell, *Bigelowia lasiocarpa*, Wight and Arn. (*Vachell, n.* 297,) and a new species of *Hedyotis*, (*Vachell, n.* 105,) closely allied to *H. Lawsonia*, Wight and Arn. Prod. Fl. Pen. Ind. Or. 1. p. 407, and to *H. stylosa*, Brown, belonging with them to the first section *Diplophragma;* it may be thus named and characterised: *H. Vachellii;* glaberrima, caule suffruticoso? erecto. ramis teretibus, foliis oblongo-lanceolatis utrinque attenuatis coriaceis inferioribus brevi-petiolatis superioribus sessilibus, nervis paucis distantibus curvatis, stipulis persistentibus triangularibus acuminatis coriaceis margine denticulatis, panicula thyrsoidea strictiuscula, calycis limbo cupuliformi 4-dentato, corollæ glabræ tubo dentes calycinos plus duplo superante, fauce pilosa.—This, like its allies, has either the stamens short and the style much protruded, or the stamens exserted and the style short: in both cases the latter is filiform, and the stigma thick and bifid.

We have also received from Mr. Millett, *Hedyotis intermedia*, Wight and Arn. (Prod. Fl. Penins. Ind. Or. 1. p. 415), two species of *Spermacoce*, (one of which is *S. articularis*, L.) *Pæderia fœtida*, L., *Ixora blanda*, Ker, and *Morinda umbellata*, Linn. The specimens of the latter present both oblong, lanceolate, and obovate apiculate leaves on the same branch, tending to prove more strongly the necessity of conjoining with it *M. parvifolia*, Bartl., and *M. tetrandra*, Jack, as has been proposed by Wight and Arn. (l. c. p. 420.) *M. Royoc*, Lour., not Linn., is undoubtedly the same species.

ORD. XLVI. COMPOSITÆ. *Juss.*

1. Borkhausia *repens. Spreng. Syst. Veget. v.* 3. *p.* 652.—Picris repens. *Lour. Cochin. v.* 2. *p.* 583.

Under this Order we shall merely here enumerate the species. Some of them we have received from Dr. Wallich, but as Prof. De Candolle is at present engaged with the fifth volume of his "Prodromus," in which all the East Indian *Compositæ* are to be described, we have thought it better to omit a specific character of these, than to attempt to frame one which would be quite insufficient to distinguish the plant from its allies, unless we had possessed them likewise. We have been induced to do this the more readily, because the specimens in the Collection of Chinese *Compositæ* are little else than fragments.

1. Spilanthes *oleracea. Linn.—Spreng. Syst. Veget. v.* 3. *p.* 444.

1. Vernonia *cinerea. Less. in Linnæa*, 1829. *p.* 291. *D. C. in Wight Contrib. Bot. Ind. p.* 6. cum synon.

Of this we have, either in the Collection, or from Mr. Millett, three forms; one, the α of De Candolle, agreeing with Burm. Th. Zeyl. t. 96. f. 1., and Rumph. herb. Amb. 6. t. 14. f. 1.: another has the leaves much narrower, agreeing in that respect with De Candolle's var. γ (l. c.) but differing by being as pubescent as in the common form; a third has the leaves still narrower and more entire, approaching to *V. leptophylla*, DC. (l. c.) but differing by their being obtuse.

1. Erigeron *multicaule. Wall. List of E. I. Plants, No.* 3286. *De Cand. l. c. p.* 10.

1. Emilia *sonchifolia. De Cand. in Wight. Contrib. p.* 24.—Cacalia sonchifolia. *Linn.—Lour. Cochin. v.* 3. *p.* 593. *Spreng. Syst. Veget. v.* 3. *p.* 429.

1. Gynura *bulbosa.*—Cacalia bulbosa. *Lour. Cochin. v.* 2. *p.* 592. *Spreng. Syst. Veget. v.* 3. *p.* 430.

We have likewise received this from Mr. Vachell; it is No. 210. b. of his plants, as distributed by Professor Henslow. The leaves are somewhat fleshy and very pubescent: sometimes, however, the pubescence wears off, and exhibits the under side elegantly marked with numerous slender waved purplish veins.

1. Wedelia *calendulacea. Less. Syn. Comp. p.* 222. *De Cand. in Wight Contrib. p.* 17.

1. Verbesina *prostrata;* caule prostrato ramoso hinc inde radicante villosulo, foliis oppositis oblongis utrinque pauci-(sub 3-)-dentatis basi cuneatis hirsutis, pedunculis monocephalis terminalibus vel ex ramulorum bifurcationibus folio longioribus, anthodii squamis biserialibus oblongis, rachidis bracteolis squamis paullo angustioribus cæteroquin consimilibus.

This species we have also received from Mr. Millett and Mr. Vachell, (No. 208.) The achenia, although compressed, have a rib or angle along the back, so that they may be almost considered as 3-angled: but the plant does not differ in any other respect from *Verbesina*, as defined by Lessing.

We have received from Canton the following other species of *Compositæ* from Mr. Millett and Mr. Vachell:

1. Vernonia *Chinensis. Less.? in Linnæa,* 1831. *p.* 105. *Vachell, n.* 212.
1. Siegesbeckia *orientalis. L.*
1. Elephantopus *scaber. Linn.*
1. Adenostemma *viscosum. Forst.—Vachell, n.* 217.
1. Wedelia *biflora. De Cand. in Wight Contrib. p.* 18. *Vachell, n.* 220.
1. Bidens *Chinensis. Willd.*
1. Glossogyne *Chinensis. Less. Syn. Comp. p.* 212. *Vachell, n.* 221.
1. Eclipta *erecta. L.*
2. E. *prostrata. L.*
1. Artemisia *Indica. Willd.*
1. Eupatorium *Chinense. L.?—Vachell, n.* 205.
2. E. . . . . *n. sp.*
1. Myriactis *Javanica. De Cand.? in Wight contrib. p.* 10.

This plant certainly belongs to the genus *Myriactis*, and approaches *M. Wightii,* De Cand., but we have not yet seen the character of *M. Javanica*, and hence our doubts.

1. Chrysanthemum *Indicum. Linn.—Vachell, n.* 125.

1. Solidago . . . . *Vachell, n.* 206. *a.*

This is probably among Dr. Wallich's species.

1. Aster . . . . *n. sp.*

This comes nearest *A. Chilensis,* N. ab E. *Syn. Ast. p.* 123, but the leaves are quite smooth and glabrous, and the scales of the anthodium are acute.

1. Doellingeria . . . . *n. sp.*

Allied to *D. scabra,* N. ab E. *Syn. Ast. p.* 183; it seems, however, to be quite distinct, by the inflorescence being a somewhat simple corymb, the pappus white, and leaves not serrated.

1. Blumea *Chinensis;* fruticosa?, ramis cano-pubescentibus, foliis elliptico-oblongis brevipetiolatis supra viridibus asperis reticulatis subtus sericeo-tomentosis dentato-serratis, serra-

turis minutis glandula aculeiformi decidua apiculatis, ramis florigeris foliosis apice corymbum oligocephalum gerentibus in paniculam corymbiformem terminalem digestis.

This, which certainly belongs to De Candolle's genus *Blumea*, (see Wight's Contrib. p. 13, and Guillemin's Arch. de Bot. 2. p. 514,) is perhaps *Baccharis Chinensis*, Lour., but Loureiro's description does not quite accord. It is Vachell's n. 202.

ANISOPAPPUS. (*Hook. et Arn.*)

Capitulum radiatum, heterogamum; floribus femineis uniserialibus in ambitu corollas ligulatas gerentibus. *Achenium* conforme, lineare, tetragonum, exalatum, erostre, paleis compluribus brevibus inæqualibus setisque quatuor multo longioribus inter se inæqualibus coronatum. *Rachis* dense bracteolatum. *Stylus* disci ramis apice obtusis inappendiculatis. *Antheræ* basi bisetosæ.—Herba *erecta, dense puberula, foliis alternis oblongo-linearibus obtuse dentato-serratis, ramis florigeris monocephalis subterminalibus corymbosis, involucri foliolis linearibus numerosis imbricatis pubescenti-tomentosis.*

1. A. *Chinensis. Hook. et Arn.*—Verbesina Chinensis. *Linn.?*

This approaches in character to *Buphthalmum*, but has the habit of *Verbesina.*

Adenophora Sinensis, as we consider it to be, of the Order *Campanulaceæ*, is in the collection from Mr. Vachell; and *Lobelia Chinensis*, Lour., (but with the leaves slightly toothed) in that from Mr. Millett.

Ord. XLVII. ERICINEÆ. *Juss.*

1. Azalea *Indica. Linn.—Spreng. Syst. Veget. v.* 1. *p.* 628.

We have received from Mr. Millett and Mr. Vachell (n. 143) *Vaccinium orientale*, Sw. (*Acosta spicata*, Lour.) from the neighbourhood of Canton and Macao.

Ord. XLVIII. SYMPLOCEÆ. *Juss.*

1. Styrax *suberifolius;* foliis oblongo-lanceolatis coriaceis acuminatis supra impresso-punctatis subtus dense pubescentibus rufescenti-albidis nervis supra impressis subtus prominulis, racemis simplicibus paucifloris, floribus quadrifidis 8-andris. (Tab. XL.)

Tab. XL. Styrax suberifolius. *Fig.* 1. Flower; *fig.* 2. Corolla laid open; *fig.* 3. Pistil:—*magnified.*

Ord. XLIX. EBENACEÆ. *Vent.*

1. Diospyros *vaccinioides;* foliis ovatis obtusis nitidis margine subtusque villosis, floribus solitariis 4-fidis, germine triloculari.—*Lindl. in Hook. Ex. Fl. t.* 139. *Spreng. Syst. Veget. Suppl. p.* 147. *Wall. List of E. I. Plants, No.* 4130.

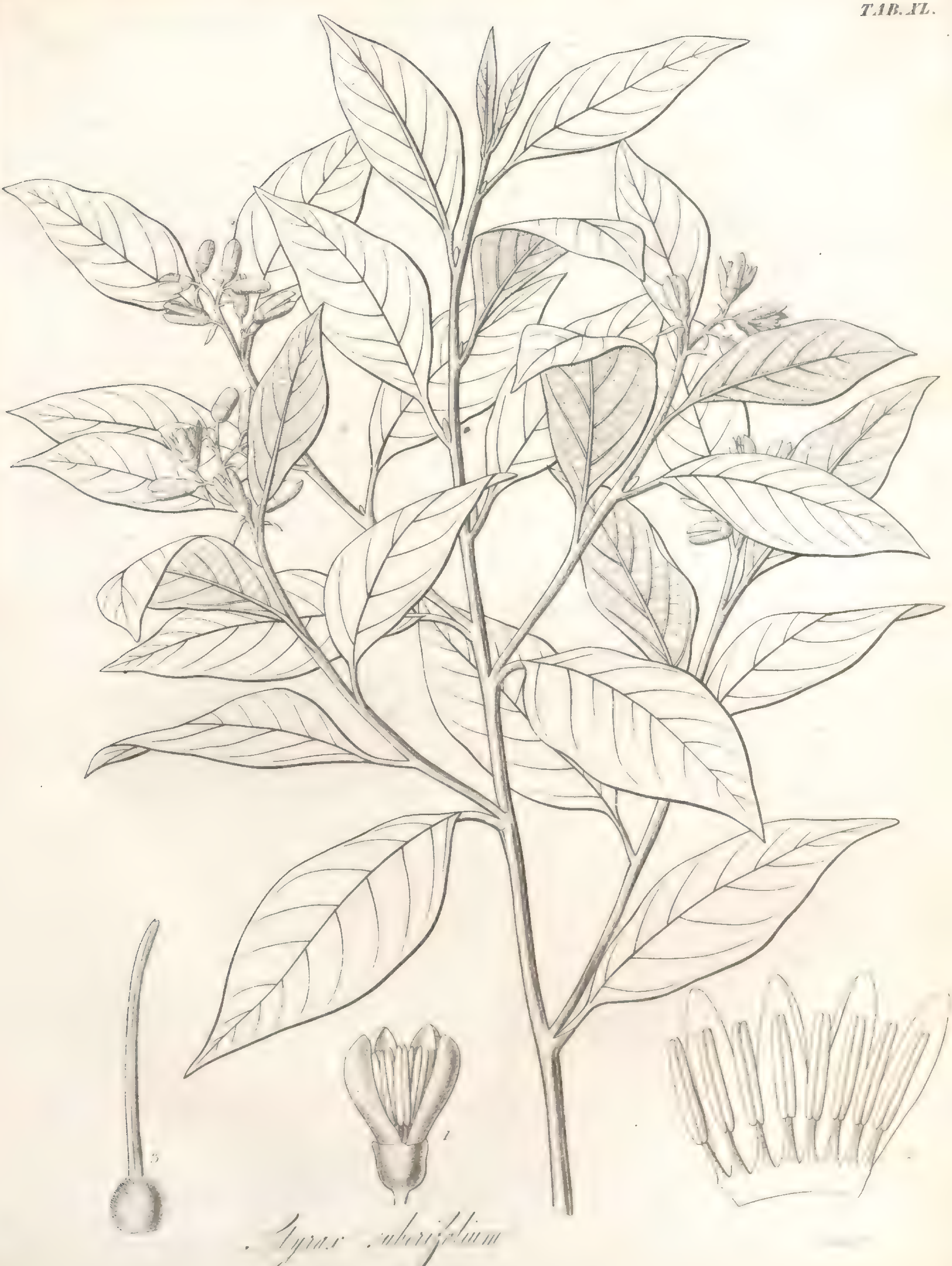
Ord. L. SAPOTEÆ. *Juss.*

1. Achras *Sapota. Linn.*

The specimen is too little advanced to permit us to ascertain even its genus. The above name was attached to it by Mr. Collie. We possess also *Mimusops Elengi*, Willd., from Mr. Millett.

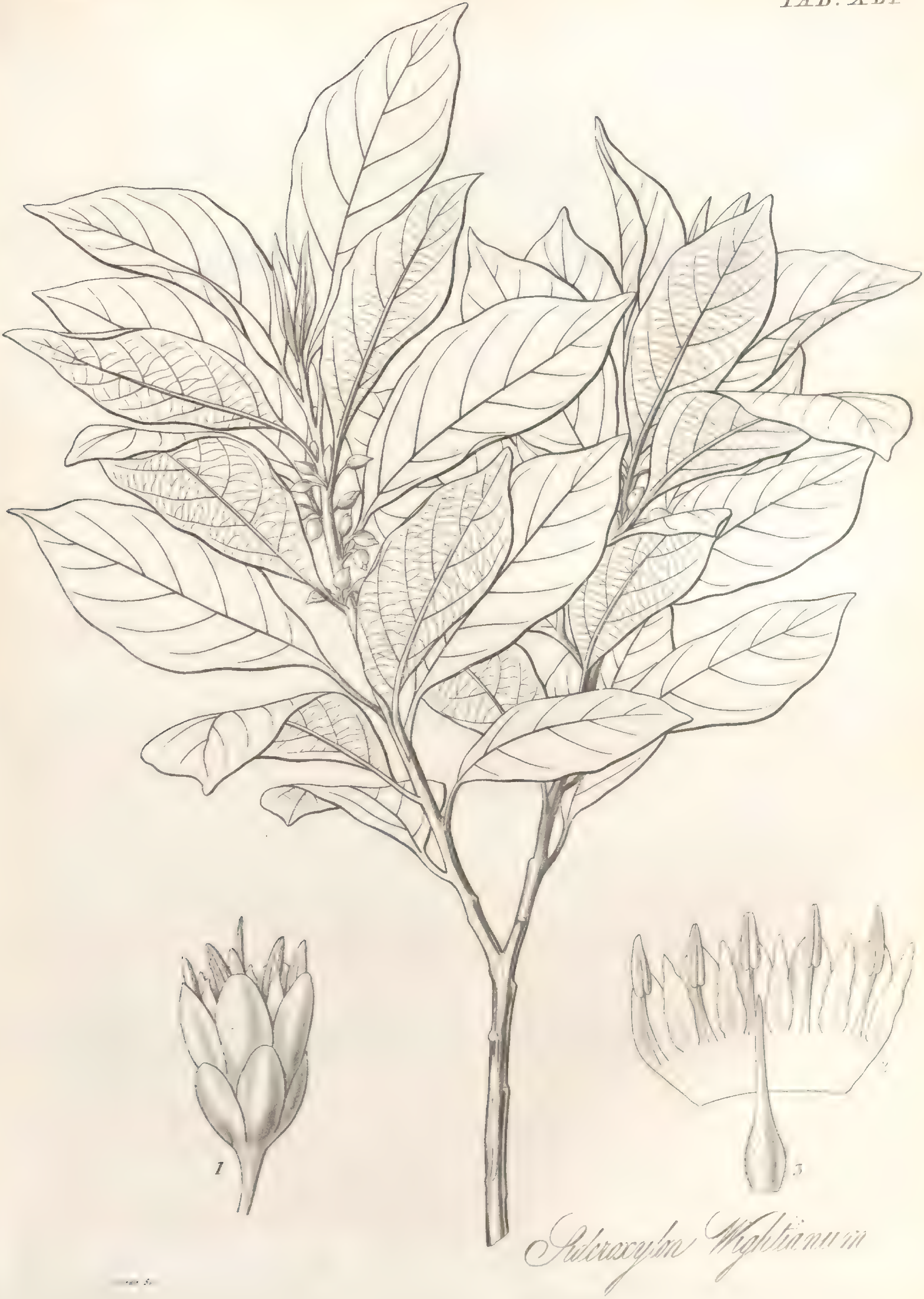
1. *Sideroxylon Wightianum;* inerme, foliis obovato-lanceolatis glaberrimis in petiolum

TAB. XL.



Styrax suberifolium

TAB. XLI



Sideroxylon Wightianum

brevem attenuatis, supra nitidis subtus pallidioribus opacis, pedunculis axillaribus aggregatis unifloris petiolo brevioribus, floribus (calycibus precipue) extus sericeis. (Tab. XLI.) *Wall. Cat. of E. I. Pl. n.* 4147.

Hab. Macao; *Mr. Millett.*

Tab. XLI. Sideroxylon Wightianum. *Fig.* 1. Flower; *fig.* 2. Corolla laid open; *fig.* 3. Pistil:—*magn.*

Ord. LI. MYRSINEÆ. *Brown.*

1. Aegiceras *fragrans. Kœn.—Wight in Hook. Bot. Misc. v.* 3. *p.* 84. *Suppl. t.* 21.—A. majus. *Gærtn.*—Rhizophora corniculata. *Linn.—Vachell, n.* 249.

1. Myrsine? *ardisioides;* foliis longe petiolatis obovato-ellipticis acutiusculis integerrimis subtus glaucescentibus, racemis axillaribus petiolum subæquantibus, pedicellis elongatis versus racemi apicem corymboso-aggregatis, germine semibiloculari, stigmatibus duobus subdiscretis crenulatis, ovulis paucis pendulis.

There is only one specimen, destitute of both *corolla* and *stamens*. The general appearance, particularly of the inflorescence, is that of an *Ardisia*, but there is almost nothing that can be termed a style. We have not been able to see a central free placenta, but on the contrary the ovules hang from the top of the cavity, which is almost divided into two cells by the introflexed margins of the two carpels of which the germen is composed. Indeed, it is probable not only that the plant does not belong to *Myrsine*, but not even to the same Natural Order. In some points it approaches *Ilicineæ.*

From Mr. Vachell (n. 146) we have *Ardisia lentiginosa*, and from Mr. Millett another species allied apparently to *A. neriifolia*, Wall.

Ord. LII. JASMINEÆ. *Juss.*

1. Jasminum *officinale. Linn.—Lour. Cochin. v.* 1. *p.* 32.

2. J. *hirsutum. Linn.?*

The specimen in the Collection has the segments of the calyx not much longer than its tube, and many times shorter than the tube of the corolla. In the figure given by Burmann, (Fl. Ind. t. 3. f. 1.) the calycine segments are about as long as the tube of the corolla; but in Rheede's figure (Hort. Mal. 6. t. 54.) they are much shorter in proportion than in the plant before us. *J. hirsutum*, L. and *J. arborescens*, Rich. are so closely allied as to render it difficult to say to which of them *Nyctanthes grandiflora* of Loureiro belongs.

1. Nyctanthes *Arbor-tristis. Linn.*—Scabrita triflora. *Linn. Mant.*

We have from Mr. Millett and Mr. Vachell several other *Jasmineæ* from Canton, among which are *Olea acuminata*, Wall., *O. fragrans*, Thunb., *Jasminum Sambac*, L., *J. bracteatum*, Roxb. (Vachell, n. 273,) *J. grandiflorum*, L., and *J. paniculatum*, Roxb.

Ord. LIII. APOCYNEÆ. *Juss.*

1. Parsonsia? *Helicandra;* volubilis glabra, foliis lato-ellipticis apice brevi-subiter attenuatis, corymbis axillaribus folio subbrevioribus, staminibus contortis.—Apocynum reticulatum. *Lour. Cochin. v.* 1. *p.* 208?

Calyx 5-partitus, laciniis ovatis. *Corolla* infundibuliformis, fauce tuboque brevi absque squamis denticulisque: limbus 5-partitus, recurvus, laciniis æquilateris. *Stamina* 5 exserta: *filamenta* juxta basin tubi inserta, filiformia, inter se spiraliter contorta: *antheræ* sagittatæ acuminatæ medio stigmati coherentes. *Glandulæ* hypogynæ 5, majusculæ, carnosæ, glabræ. *Germen* ovatum, compressum, biloculare. *Stylus* unicus, filiformis. *Stigma* e basi dilatata conicum.

This, if it be a *Parsonsia*, belongs to the second section, which hitherto consists of Australasian species: but we think there are sufficient characters, although we are ignorant of the fruit, to constitute it a distinct genus: in which case the plant may be named *Helicandra Sinensis.*

1. Holarrhæna *affinis;* antheris oblongis medio tubi insertis, stylo subelongato.

Corolla hypocrateriformis, fauce tuboque intus pubescenti absque squamis denticulisve. *Stamina* inclusa: *filamenta* nulla: *antheræ* medio tubi insertæ, a stigmate liberæ, oblongæ, integræ, longitudinaliter polliniferæ. *Annulus* subcarnosus, tenuis, brevis, pistilli basin arcte cingens, alioquin squamæ nullæ hypogynæ. *Germina* duo. *Stylus* subelongatus, tubo subdimidio brevior. *Stigma* cylindraceo-capitatum.

This accords so well with the figure in Vahl, Symb. 3. t. 59, of *H. mitis*, Br., that we should have considered it identical, did not Brown and Vahl describe the stamina as situated at the bottom of the tube of the corolla, as having almost no style, and omit all mention of the little annulus that surrounds the base of the germen.

ECDYSANTHERA. (*Hook. et Arn.*)

Calyx 5-partitus, laciniis lanceolatis. *Corolla* subcampanulata; limbo 5-fido, patente, laciniis æquilateris, per æstivationem contortis; fauce tuboque intus absque squamis denticulisve. *Stamina* medio tubo inserta: *filamenta* brevissima: *antheræ* semiexsertæ, sagittatæ, medio stigmati cohærentes, lobis posticis polline vacuis. *Annulus* hypogynus, brevis, tenuis, pistilli basin cingens. *Germina* duo. *Stylus* unicus, brevis. *Stigma* conico-capitatum, acutum.—Frutex *erectus?* Folia *sublonge petiolata, elliptica, basi acuta apice subiter breve attenuata, glabra.* Panicula *axillaris, elongata, laxe cymosa.* Flores *parvi, rosei.* Corollæ tubus *vix calyce longior.* Germina *villosa.*

1. E. *rosea.* (Tab. XLII.)

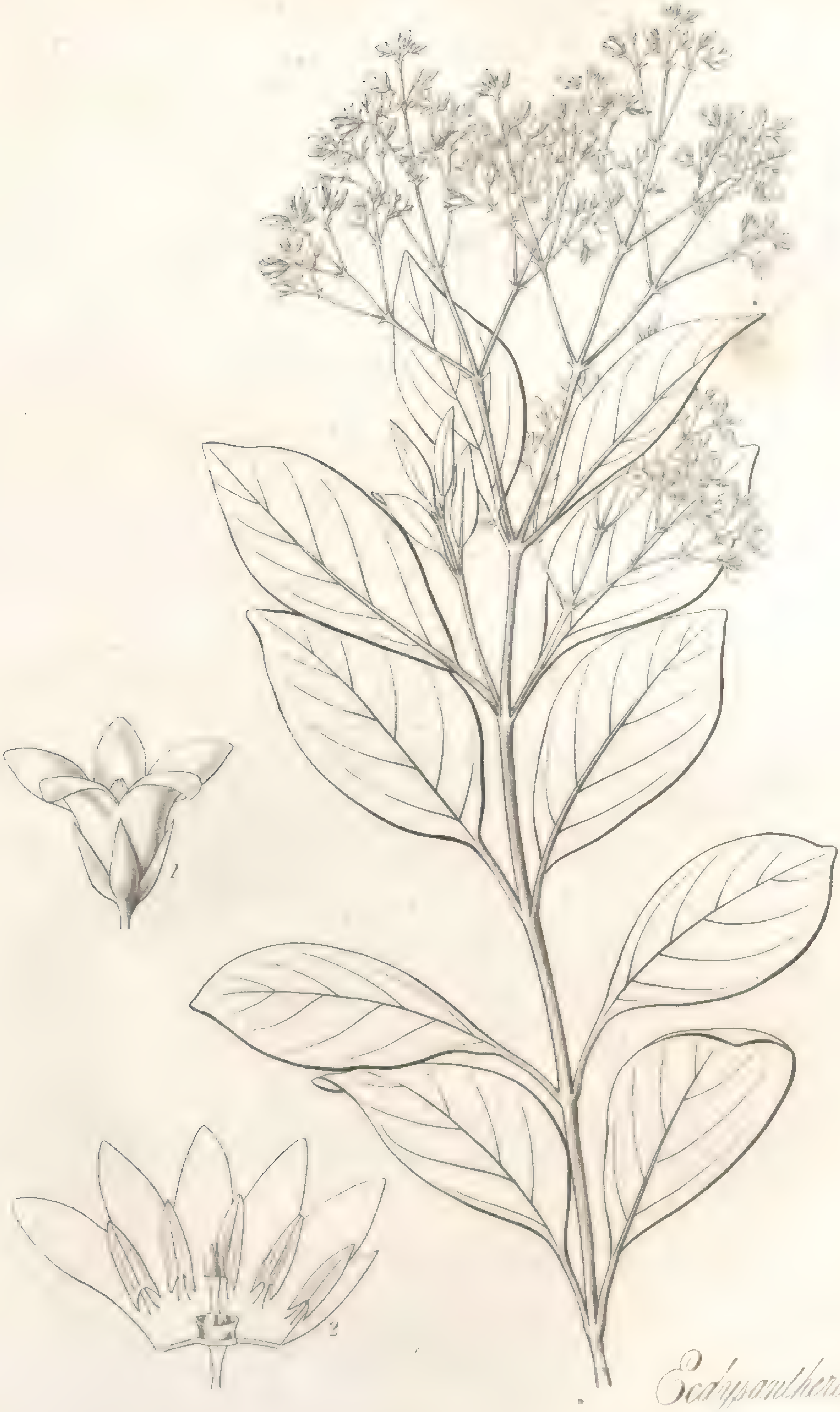
Hab. Canton, Macao, and the adjacent islands. *Messrs. Lay and Collie, Mr. Millett, and Rev. G. H. Vachell.* (No. 144.)

There can be no doubt, we believe, of this being a genus distinct from any previously described. It is extremely allied to the next in habit; and it is probable that *Echites? lucida,* Wall. List, n. 1670, belongs one or the other, but we have not seen flowers sufficiently advanced for examination.

Tab. XLII. Ecdysanthera rosea. *Fig.* 1. Flower; *fig.* 2. Corolla laid open:—*magnified.*

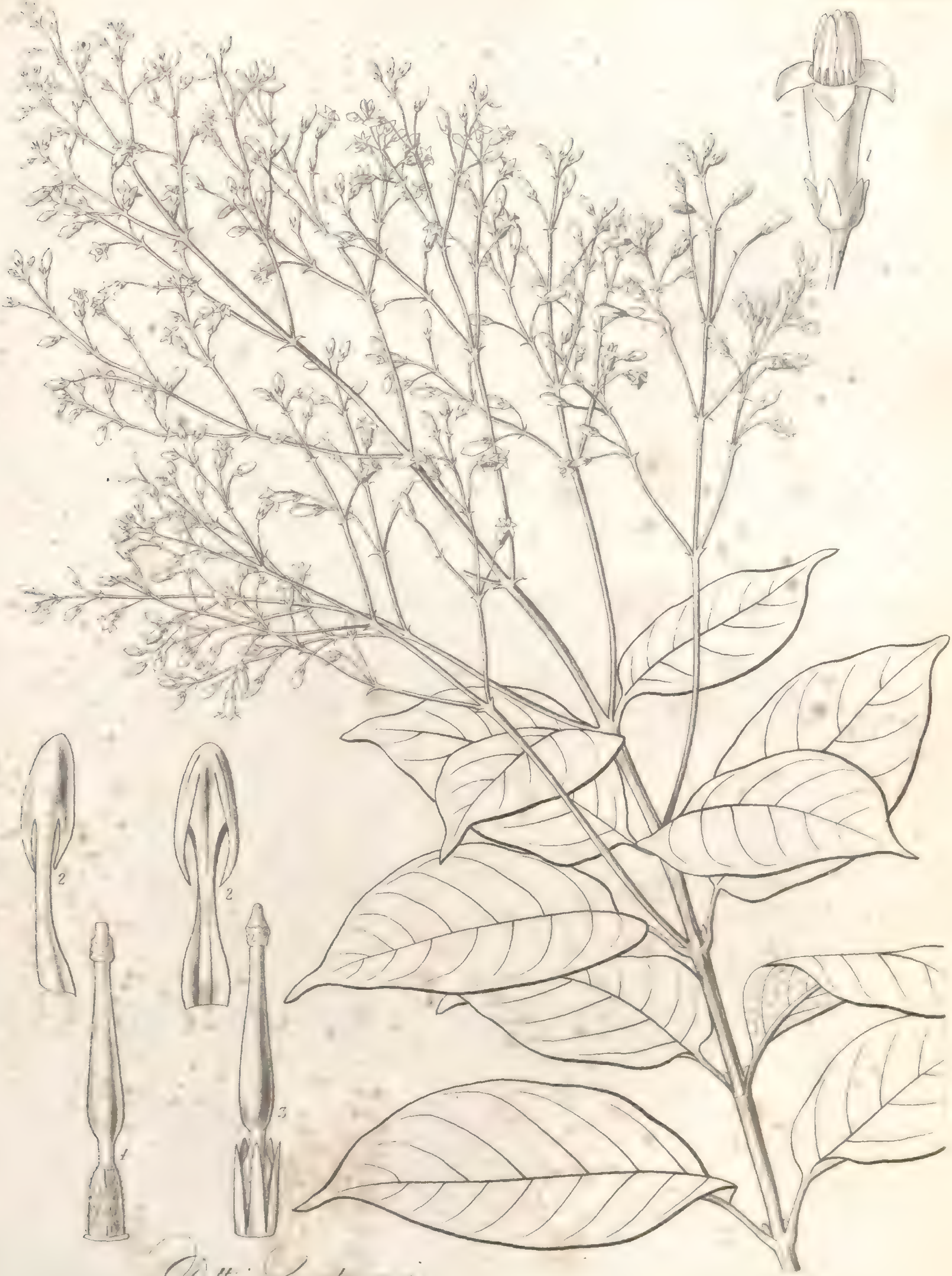
POTTSIA. (*Hook. et Arn.*)

Corolla hypocrateriformis, fauce tuboque esquamatis, limbo 5-partito, patente, laciniis æquilateris, per æstivationem haud contortis. *Stamina* exserta: *filamenta* fauce inserta, usque ad medium tubi decurrentia ibique intus dense pubescentia, apice glabra, simplicia: *antheræ* sinu lato sagittatæ, medio stigmati cohærentes cupulamque obtusam supra illud formantes: lobis posticis subulatis incurvis polline vacuis. *Germina* duo, villosa: *Stylus* unicus, e basi oblonga attenuatus, glaber: *Stigma* incrassatum, subglobosum, 5-angulatum, acutum. *Squamæ hypogynæ* 5 lineari-lanceolatæ, liberæ, omnino glabræ, germen superantes. —Frutex *erectus?* Rami *puberuli.* Folia *glabra, petiolata, ovalia, basi subcordata, repente*



Ecdysanthera rosea

TAB. XLIII



Pottsia Cantonensis

ac obtuse acuminata. Cymæ *glabræ, trichotomæ, laxæ, paucifloræ, longe pedunculatæ, axillares et terminales.* Flos 4 *lineas longus. Habitu valde refertæ* Ecdysantheram roseam, *at floris structura omnino aliena.*

1. P. *Cantonensis.* (Tab. XLIII.)

Hab. Canton; *Mr. Millett.*

We have named this genus in honour of Mr. Potts, who sent to Europe many interesting plants from Canton and its vicinity. Both it and the preceding belong to the same subdivision with *Isonema, Vallaris. Parsonsia,* and *Lyonsia;* from the two last both differ by the very short filaments, from *Isonema* by the presence of hypogynous scales or an annular disk, and from *Vallaris* by the filaments being simple at the apex. The insertion of the stamens and many other characters readily distinguish them from each other.

Tab. XLIII. Pottsia Cantonensis. *Fig.* 1. Flower; *fig.* 2. Corolla laid open:—*magnified.*

1. Nerium *odorum;* foliis ternis lineari-lanceolatis coriaceis subtus venosis, foliolis paucis multifidis apice filamentosis. *Spreng.—Ait.—Willd.—Spreng. Syst. Veget. v.* 1. *p.* 637. *Roxb. Fl. Ind. v.* 2. *p.* 2.—N. Oleander. *Lour. Cochin. v.* 1. *p.* 141. *Rheede, Mal.* 9. *t.* 1. *et* 2.

1. Strophanthus *divaricatus;* frutex, erectus, ramis oppositis patentissimis, foliis oppositis lanceolato-oblongis nitidis, pedunculis terminalibus dichotomis, segmentis calycinis bracteisque erectis subulatis, antheris aristatis.—S. divergens. *Graham in Ed. New Phil. Journ. No.* 5. *p.* 177.—S. dichotomus, β. Chinensis. *Bot. Reg. t.* 469.—Pergularia divaricata. *Lour. Cochin. v.* 1. *p.* 210.—Nerium Chinensis. *Hunter, in Roxb. Fl. Ind. t.* 2. *p.* 9.

We have restored the old specific name of *divaricatus,* Loureiro's description leaving no doubt about this being the plant he had in view. We agree with Dr. Graham in thinking it a very distinct species from *S. dichotomus,* a plant with which *Nerium scandens,* Lour. Cochin. v. 1. p. 143, and *N. caudatum,* Roxb. Fl. Ind. v. 2. p. 9. appear identical. In the native specimens the peduncles rarely bear more than two or three flowers. *S. divaricatus* of Wallich is probably a different species.

1. Tabernæmontana *bovina. Lour. Cochin. v.* 1. *p.* 145?

The leaves are of a thinner texture than in *T. persicariæfolia,* Jacq., to which the only specimen in the Collection seems allied: the peduncles have only about three flowers.

2. T. *mollis;* ramulis glabris apice tantum foliiferis, foliis oblongo-ovatis basi apice vix acutis (junioribus) utrinque molliter pubescentibus, corymbis sessilibus terminalibus paucifloris calycibusque pubescentibus, bracteis minutis oblongis.

This is a true *Tabernæmontana,* but certainly not among those described by Loureiro, nor, indeed, have we been able to find it under any other genus in his work. We possess *T. coronaria,* Willd. from Mr. Millett.

1. Carissa *Carandas. Linn. Mant. p.* 52. *Willd. Sp.* 1. *p.* 1229. *Lam. Ill. t.* 118, *f.* 1. *Roxb. Cor.* 1. *t.* 77. *Lour. Cochin. v.* 1. *p.* 153?

Loureiro's plant was observed only on the eastern coast of Africa, and he states that he had never seen it in India or China; his description, however, seems to accord.

1. Strychnos *Nux vomica. Linn.—Lour. Cochin. v.* 1. *p.* 154. *Lam. Ill. t.* 119. *Roxb. Cor.* 1. *t.* 4. *Rheede, Mal.* 1. *t.* 37.

1. Melodinus *monogynus;* caule fruticoso scandente, foliis ovato-lanceolatis nitidis, corymbis versus apices ramorum axillaribus terminalibusque confertis, squamis tubi corollæ indivisis, stylo unico, stigmate ovato apice tenui bifido.—*Roxb. Fl. Ind. v.* 2. *p.* 56. *Wall. List of E. I. Plants, No.* 1603. *Vachell, n.* 142.

We can perceive no difference between Roxburgh's plant and that from China. We have asserted it to be a climber on Roxburgh's authority, as our specimens are not of sufficient length to enable us to determine that point ourselves. It is remarkable that it should not have been observed by Loureiro, particularly as from Roxburgh's description it appears to be a very large plant " climbing over trees," &c.

We have also received, from Mr. Millett, *Wrightia tinctoria*, Br.

ORD. LIV. ASCLEPIADEÆ. *Brown.*

TOXOCARPUS. (*Wight and Arn.*)

Corolla rotata; limbo 5-partito; laciniis contortis. *Corona* staminea 5-phylla; foliolis apice truncatis, dorso planiusculis, intus lacinula membranacea auctis. *Massæ pollinis* 20, erectæ, læves, apice corpusculi singuli exsulci quaternatim affixæ. *Stigma* sæpius rostratum, acutum, indivisum. *Folliculi* læves, divaricati.—Frutices *volubiles;* caules *glabri vel rufo-pubescentes.* Folia *opposita, glabra, nervis lateralibus ante marginem coalescentibus.* Panicula *divaricata, dichotome corymbosa.*

1. T. *Wightianus;* foliis anguste ellipticis apice breve acuminatis, floribus breviter pedicellatis, corollæ tubo brevi gynostegium æquante, fauce glabra segmentis lingulatis tortilibus glabris, lacinulis foliolorum coronæ elongatis ipsa foliola superantibus, stigmate rostrato ancipiti tubum corollæ duplo superante.—Asclepias Curassavica. *Lour. Cochin. v.* 1. *p.* 211*?* (*non Linn.*)

We have named this species in honour of our friend Dr. Wight, who has studied the Indian genera of this difficult Natural Order with peculiar zeal, and from whom we have derived much assistance in ascertaining the Chinese species. The genus was instituted for the *Asclepias longistigma* of Roxburgh, (Fl. Ind. t. 2. p. 46,) which differs from the Chinese plant by having the leaves much broader, and the lacinula of the coronal leaflets shorter than the leaflets. Our description is entirely derived from specimens received direct from China from Mr. Vachell and Mr. Millett; the only individual in the Collection being destitute of flowers, and having but two or three leaves, may perhaps be something different.

1. Gymnema *sylvestre. Brown in Wern. Soc. Mem.* 1. *p.* 33. *Spreng. Syst. Veget. v.* 1. *p.* 844. *Wight et Arn. in Wight's Contrib. Bot. Ind. p.* 44. (cum synon. omn.)—G. parviflorum. *Wall. Tent. Fl. Nep. p.* 50.—Periploca sylvestris. *Willd.*—Apocynum alterniflorum. *Lour. Cochin. v.* 1. *p.* 208*?*

We possess specimens from Dr. Wight from the peninsula of India, agreeing so well with the Chinese plant, that we consider them the same. In the Chinese individual the leaves are slightly narrower and less pubescent beneath, but even in Indian specimens that character is exceedingly variable. We have only two other *Asclepiadeæ* from Canton, but they are not among Captain Beechey's Collection: the one is *Asclepias Curassavica*, L., the other is what Dr. Lindley has described (Hort. Soc. Trans. v.

2, p. 268,) as *Diplolepis ovata:* it cannot, however, belong to that genus, being, as Dr. Wight has remarked to us, a species of *Tylophora*. We propose to call it *T. ovata;* and it is extremely probable that *Apocynum Juventus,* (Lour. Cochin. v. 1. p. 208,) is the same plant. It is n. 229 of Mr. Vachell's Collection.

ORD.* LV. PEDALINEÆ. *R. Br.*

1. Sesamum *orientale. Linn.*

ORD. LVI. CONVOLVULACEÆ. *Juss.*

1. Evolvulus *alsinoides. L.*

1. Convolvulus *Pes-Capræ. Linn.*—C. bilobatus. *Roxb. Fl. Ind.* 1. *p.* 485; (*ed. Car. et Wall.*) 2. *p.* 73; *in Cæt. Merc. Ind. or. mus. tab.* 1353.—*Vachell, n.* 88. *b.*

2. Convolvulus *hederaceus. Linn.*—Ipomæa cærulea. *Roxb. Fl. Ind.* 1. *p.* 501; (*ed Car. et Wall.*) 2. *p.* 91; *in Cæt. Merc. Ind. or. mus. tab.* 571.

3. Convolvulus *parviflorus. Vahl.*—*Vachell, n.* 332.

4. Convolvulus *Mẹdium. Linn.*—*Lour. Fl. Coch.* 1. *p.* 130.—*Vachell, n.* 333.

5. Convolvulus *Quamoclit. Spr.*—Ipomæa Quamoclit. *Linn.*—*Vachell, n.* 122.

1. Cuscuta *Millettii;* floribus subcapitatis subsessilibus 5-fidis lævibus, corolla intus nuda lobis obtusis, staminibus inter lobos summo tubo insertis exsertis, stylis duobus, stigmatibus capitatis, fructu membranaceo.—Grammica aphylla. *Lour. Fl. Coch.* 1. *p.* 212.?

HAB. Canton; *Mr. Millett.*

Loureiro does not make any mention of scales on the inside of the tube of the corolla, so that we are inclined to refer his plant here, rather than, as is usually done, to *C. carinata*. He describes the fruit as a membranaceous berry.

ORD. LVII. CORDIACEÆ. *R. Br.*

1. Erycibe *glaucescens. Wall. List of E. I. Plants, n.* 1334.—*Choisy in Ann. des Sc Nat. n. s.* 1. *p.* 223.

This is scarcely to be distinguished from *E. paniculata,* Roxb., nor do we know of any certain character except the colour of the pubescence on its inflorescence. We may remark that *Erycibe* is the same genus as *Catonia,* Vahl in Skrivt. Naturf. Selsk. Kiovenh. 6 (1810) p. 98; but, from the scarcity of that volume, never perhaps offered for sale, and, therefore, only to be viewed in the light of an unpublished manuscript, the name given it by Roxburgh, although posterior, is always retained. *Catonia glauca,* Vahl, l. c. p. 99, is identical with *E. paniculata,* Roxb.

ORD. LVIII. BORAGINEÆ. *Juss.*

1. Tiaridium *Indicum. Lehm.*—Heliotropium Indicum. *Linn.*

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* From this Order to the end of our account of the Chinese Collection, we have had principally in view our own herbaria. After finishing the *Asclepiadeæ*, the whole of the species which we have already described in this work were returned to the Admiralty. Unfortunately the remainder of those from China were packed up with them; and before we had perceived the mistake, they had all been presented to private individuals.

We have received it both from Mr. Millett and Mr. Vachell, (n. 270.)

1. Cynoglossum *diffusum. Roxb. Fl. Ind.* 1. *p.* 457; (*ed Car. et Wall.*) 2. *p.* 7. *Wall. List of E. I. Plants, n.* 925.

Hab. Canton; *Mr. Millett.*

1. Lithospermum *Chinense;* herbaceum strigoso-pilosum, caule erecto simplici vel e basi ramoso, ramis simplicibus, foliis anguste linearibus acutis, floralibus bracteiformibus, floribus brevissime pedicellatis, corollæ (luteæ) tubo calycem vix æquante, nucibus lævibus glabriusculis (atris.)

Hab. Macao; *Rev. G. H. Vachell, n.* 286.

Ord. LIX. SOLANEÆ. *Juss.*

1. Solanum *fistulosum. Rich.—Nees ab Esenb. in Linn. Soc. Trans.* 17. *p.* 37.

2. Solanum *rubrum. Roxb.—Nees ab Esenb. in Linn. Soc. Trans.* 17. *p.* 39.

We possess, from Canton, two forms of var. α; Vachell's No. 127 belongs to the first. To this variety also may be referred the plants which at p. 67, and 162 of this work, the one from the islands of the Pacific, the other from California, we noticed as *S. nigrum.* It must be confessed, that the difference between these, and also *S. fistulosum* and *insertum*, is very slight.

3. Solanum *verbascifolium. Linn.—Nees ab Esenb. in Linn. Soc. Trans.* 17. *p.* 46.

4. Solanum *Melongena. Linn.—Nees ab Esenb. l. c. p.* 48.

5. Solanum *torvum. Swartz.—Nees ab Esenb. l. c. p.* 53.

6. Solanum *Indicum. Linn.—Nees ab Esenb. l. c. p.* 55.—*Vachell, n.* 250.

1. Lycopersicum *esculentum. Mill.—Nees ab Esenb. l. c. p.* 61.

1. Capsicum *fastigiatum. Blume.—Nees ab Esenb. l. c. p.* 64.

1. Datura *alba. Rumph.—Nees ab Esenb. l. c. p.* 73.

Ord. LX. SCROPHULARINEÆ. *R. Br.*

1. Herpestis *Monneria. Kunth.—Benth. Scroph. Ind. p.* 30.—Gratiola Monneria. *Linn.*

1. Vandellia *crustacea. Benth. Scroph. Ind. p.* 35.—Torenia crustacea. *Cham. et Schlecht. in Linnæa,* 2. *p.* 570.—Capraria crustacea. *Linn.*—Gratiola lucida. *Vahl.*—Morgania lucida. *Spr. Syst. Veget.* 2. *p.* 802.—Tittmannia ovata. *Reichenb. in Spr. l. c. p.* 800.

Hab. Lappas island; *Rev. G. H. Vachell,* (n. 155.) Canton; *Mr. Millett.*

2. Vandellia *oblonga;* glabra, caulibus cæspitosis erectiusculis oligophyllis, foliis (oppositis) oblongo-linearibus lanceolatisve basi attenuatis integerrimis margine scabris, floribus longe pedunculatis axillaribus in racemum nudiusculum laxum pauciflorum digestis, corolla calycem tubulosum duplo superante, capsula globosa inclusa.—*Benth. Scroph. Ind. p.* 35.—Torenia lobelioides. *Hook. et Arn. olim, in Herb. Henslow.*

Hab. Islands near Macao; *Rev. G. H. Vachell, n.* 248.

TAB. XLIV

Siphonostegia Chinensis

1. Buchnera *hirsuta. Wall.—Benth. Scroph. Ind. p.* 41.—B. Asiatica. *Roxb. Fl. Ind.* 3. *p.* 32.?

2. Buchnera? *densiflora;* annua simplex scabra, foliis integerrimis radicalibus ovalibus caulinis inferioribus lineari-oblongis obtusis superioribus linearibus acuminatis sursum decrescentibus, spica oblonga pedunculata (a foliis remota) tetragona densa bracteata imbricata, bracteis ternis duabus lateralibus subulatis tertia late ovata acuminata concava ciliata calycem 5-dentatum estriatum! æquante, corollæ (parvæ) tubo subrecto, limbo subæqualiter 5-lobo lobis oblongis undulatis, capsulis inclusis.

Hab. Canton; *Mr. Millett.*

This agrees in many respects with *B. cruciata,* Ham. (*Benth. Scroph. Ind. p.* 41,) but it appears from Mr. Bentham's specific character of the latter, to be quite distinct. The whole plant, as is usual in the genus, becomes black by drying.

SIPHONOSTEGIA. (*Benth.*)—Prismatanthus. *Hook. et Arn. MS.*

Calyx tubulosus, subcoloratus, decemstriatus, versus faucem paullum angustatus; limbo subæqualiter quinquepartito, laciniis oblongo-linearibus, duabus superioribus rectis, tribus inferioribus deflexis. *Corolla* ringens, tubo angusto calycem æquante: labium superius rectum, indivisum, concavum; inferius trilobum, subdeflexum. *Stamina* quatuor, didynama, ascendentia, sub labio superiore posita. *Antheræ* incumbentes, loculis discretis parallelis basi acutis muticis. *Stylus* rectiusculus simplex. *Stigma* capitatum, subbilobum. "*Capsula* oblonga recta, valvulis integris." *Benth.*—Herba *erecta, ramosa, cano-pubescens.* Folia *subopposita, circumscriptione triangularia, basi in petiolum attenuata,* 3-*partita, segmentis lateralibus divaricatis, omnibus inciso-pinnatifidis.* Rami *florigeri simplices.* Folia floralia *minus dissecta quam caulina, inferiora alterna, superiora opposita.* Flores *axillares, solitarii, breve pedicellati, bracteolis duabus sub calyce parvulis, linearibus.* Calyx *fere* Lythri *seu* Cupheæ *at elongato-ampullaceus.* Corolla *purpurea.*

1. S. *Chinensis.* (*Benth.*) (Tab. XLIV.)—Prismatanthus bartsioides. *Hook. et Arn. olim, in Herb. Henslow.*

Hab. Macao and the adjacent islands; *Rev. G. H. Vachell, n.* 184.

This approaches very much in character to *Bartsia,* from which it is distinguished by the calyx, and to *Pedicularis,* from which it is separated by the corolla and calyx. In habit it is not allied to any genus with which we are acquainted.

Tab. XLIV. Siphonostegia Chinensis. *Fig.* 1. Flower; *fig.* 2. Stamens; *fig.* 3. Anther; *fig.* 4. Pistil:—*magn.*

PTEROSTIGMA. (*Benth.*)—Spathestigma. *Hook. et Arn. MS.*

Calyx viscide pilosus, 5-partitus, segmentis lineari-lanceolatis, supremo longiori, basi bibracteolatus, bracteolis anguste linearibus. *Corolla* cærulescens, pollicaris, intus glabra, bilabiata; labium superius majus, subintegrum; inferius trilobum, lobis subæqualibus, obtusis; faux aperta. *Stamina* quatuor, basi barbata; duo longiora fertilia, antheris didymis, ecalcaratis, lobis subglobosis; duo inferiora gracilia, sterilia, antheris glanduliformibus terminata. *Stylus* filiformis. *Stigma* indivisum, spathulatum, lateribus tenuioribus incurvis. *Capsula* bilocularis, loculicide bivalvis, polysperma, ovata, apice acuminata, compressiuscula, bisulcata. *Placenta* magna, scrobiculata. *Semina* minuta, ovalia, ruguloso-scabra. *Albumen* oleosum.

Pterostigma *grandiflorum. Benth. Scroph. Ind. p.* 21. (Tab. XLV.)—Spathestigma glutinosum. *Hook. et Arn. olim, in Herb. Henslow.* (cum syn. sequ.)—Gerardia glutinosa. *Linn.*—Digitalis Chinensis. *Lour. Fl. Coch.* (*ed Willd.*) 2. *p.* 459?

Hab. Canton and Islands near Macao; *Mr. Millett; Rev. G. H. Vachell, n.* 244.

Herba perennis? erecta, parce ramosa. *Caules ramique* obtusiuscule quadranguli, viscide pubescentes vel villosi. *Folia* opposita, petiolata, ovata, acuminata, obtuse serrata, supra pubescentia viridia subtus magis pubescentia atque viscida pallider glanduloso-punctata. *Pedunculi* inferiores axillares, superiores in racemum terminalem foliis floralibus caulinis paullo minoribus instructum dispositi, petiolo duplo longiores.

Loureiro says that the stems are terete and glabrous, but the remainder of his character appears to agree very well with the plant before us. The whole is about a foot or a foot and a half high; the stem, although herbaceous, is in some specimens of so hard a nature at the base, that we suspect the plant to be perennial.

Tab. XLV. Pterostigma grandiflorum. *Fig.* 1. Flower; *fig.* 2. Imperfect stamens; *fig.* 3, 4. Back and front view of the anthers of the perfect stamens; *fig.* 5. Pistil; *fig.* 6. Calyx, including the capsule; *fig.* 7. Capsule:—*magnified.*

Ord. LXI. LABIATÆ. *Juss.*

1. Ocymum *Basilicum. γ. glabratum. Benth. Labiat. p.* 4.—O. caryophyllatum. *Roxb. Fl. Ind.* 3. *p.* 16.

1. Majorana *hortensis. Mœnch.—Benth. Lab. p.* 338.—Origanum Majorana. *Linn.*

1. Scutellaria *Indica. Linn.—Benth. Labiat. p.* 428.

1. Leucas *linifolia. Spr. Syst. Veget.* 2. *p.* 743.—*Benth. Labiat. p.* 617.

2. Leucas *Benthamiana;* perennis? herbacea diffusa adpresse canescenti-pubescens, ramis tetragonis, foliis late ovatis supra medium grosse dentatis lævibus molliter ac densius pubescentibus, verticillastris subsex-(4-8)-floris omnibus petiolum 2-3-plo superantibus, bracteis minutis, calycibus tubulosis pubescentibus striatis, ore æquali dentibus brevibus setaceo-acuminatis recurvo-patulis.—Ballota pilosa. *Lour. Fl. Coch.* 2. *p.* 442?

Hab. Canton; *Mr. Millett.* Lappas island; *Rev. G. H. Vachell, n.* 172.

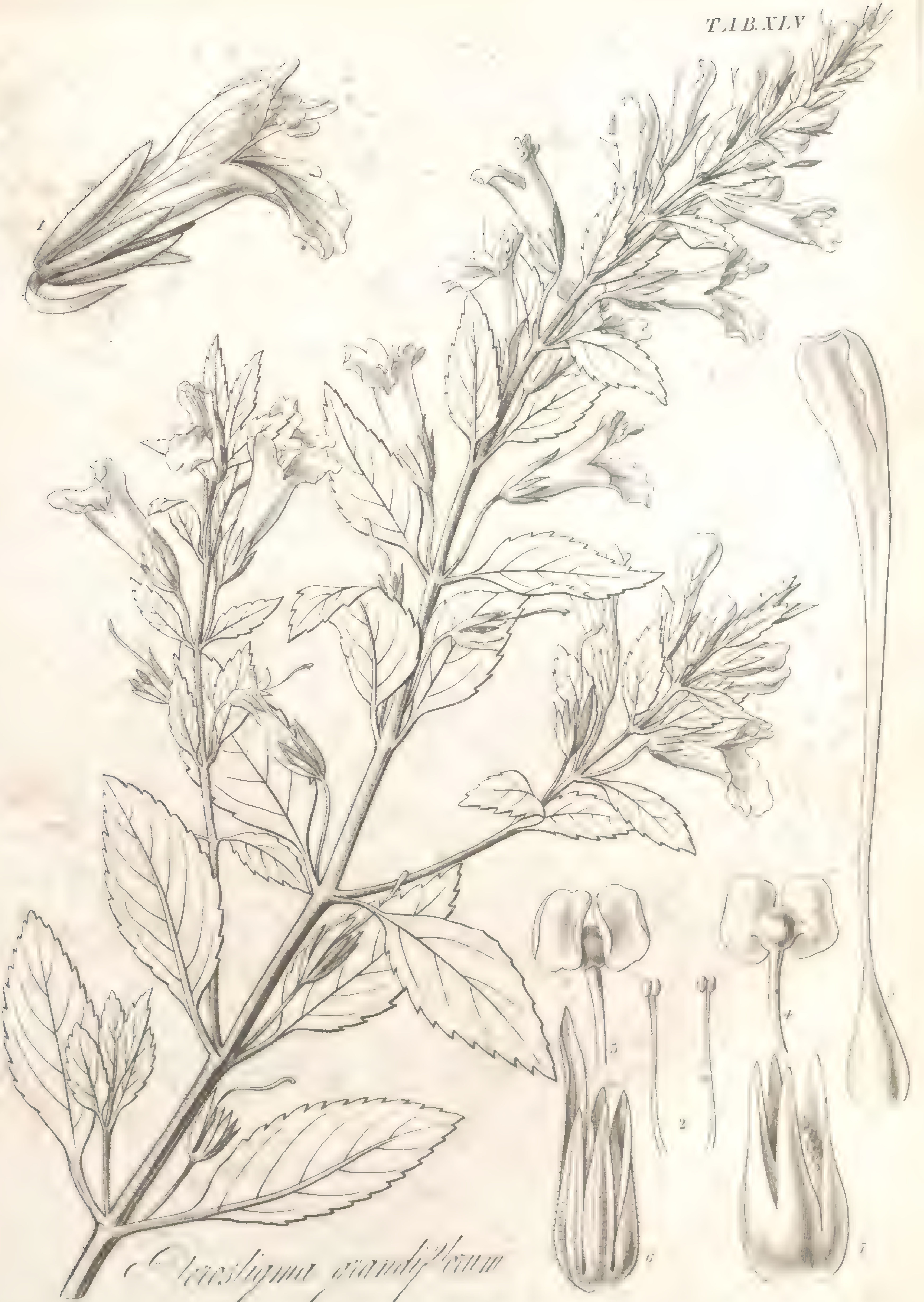
Allied to *L. biflora*, but with more flowers in the verticillastrum: also to *L. mollissima*, but the leaves are much thinner, not rugose, and not tomentose underneath. From *L. decemdentata*, it is known by the shortly petioled floral leaves. It may possibly prove to be *L. Javanica*, Benth., or *Phlomis Chinensis*, Blume; but of that no character is given by Mr. Bentham, nor any, we believe, by Blume himself.

1. Leonurus *Sibiricus. Linn.—Benth. Lab. p.* 520.

Hab. Canton; *Mr. Millett.* Lappas Island; *Rev. G. H. Vachell, n.* 162.

1. Anisomeles *ovata. R. Br.*—Ajuga disticha. *Roxb. Fl. Ind.* 3. *p.* 2.

1. Teucrium *stoloniferum. Roxb. Fl. Ind.* 3. *p.* 3. *Benth. in Wall. Pl. As. Rar.* 1. *p.* 58.



Chirostigma grandiflorum

ORD. LXII. VERBENACEÆ. *Juss.*

1. Barbula *Sinensis. Lour. Fl. Coch.* 2. *p.* 445.

HAB. Canton; *Mr. Millett.* Macao, in sandy soil; *Rev. G. H. Vachell, n.* 176.

1. Lippia *nodiflora. Rich.—Vachell, n.* 93.

1. Verbena *officinalis. L.—Vachell, n.* 164.

1. Clerodendron *inerme. Gærtn. de Fruct. et Sem.* 1. *p.* 75. *Roxb. Fl. Ind.* 3. *p.* 58.—Volkameria inermis. *Linn.—Rheede, Hort. Mal.* 5. *t.* 49. *Rumph. Herb. Amb.* 5. *t.* 46.

HAB. Canton; *Mr. Millett.* Macao; *Rev. G. H. Vachell, n.* 267.

2. Clerodendron *Siphonanthus. R. Br.*—Siphonanthus Indica. *L.—Vachell, n.* 150.

3. Clerodendron *fortunatum. L.*

The only specimen before us, from Mr. Millett, is imperfect.

4. Clerodendron *castaneifolium;* ramis minute strigilloso-pubescentibus, foliis petiolatis oblongo-lanceolatis basi cuneatis integerrimis superne irregulariter dentatis supra minute et sparsim puberulis subtus glabris venosis, corymbis axillaribus folio triplo brevioribus, bracteis bracteolisque subulatis deciduis, calyce 5-partito segmentis ovatis acuminatis demum auctis.

HAB. Canton; *Mr. Millett.*

The leaves bear a considerable resemblance to those of the Chestnut, but are membranaceous, as in the other species of *Clerodendron.*

5. Clerodendron *squamatum. Vahl.*—Volkameria Kæmpferi. *Jacq.—Roxb. Fl. Ind.* 3. *p.* 60.—V. angulata. *Lour. Fl. Coch.* 2. *p.* 473?

6. Clerodendron *fragrans. Vent.*—Volkameria Japonica. *Jacq.*

7. Clerodendron *viscosum. Vent.*—C. canescens. *Wall. List of E. I. Plants, n.* 1804.—C. infortunatum. *Lour. Coch.* 2. *p.* 471.—*Vachell, n.* 134. *α.*

1. Lantana *aculeata. Linn.*

Sent from the gardens of Macao by Mr. Millett and the Rev. G. H. Vachell, n. 147. In all the specimens there are no prickles to be seen, agreeing in that respect with the remarks in the Botanical Magazine, t. 96.

1. Callicarpa *tomentosa* (*Willd.?*); ramis petiolis pedunculisque fulvo-villosis, foliis oblongo-lanceolatis acuminatis basi ovatis margine glanduloso-dentato-serratis supra lævibus demum glabratis nervis dense pubescentibus subtus floccoso-tomentosis junioribus utrinque canis, pedunculis petiolum subæquantibus, corymbis trichotomis densifloris calycibusque villosis, staminibus longe exsertis.—*Willd. En. Hort. Ber.* 1. *p.* 158?—C. Americana. *Lour. Fl. Coch.* 1. *p.* 88.

HAB. Canton; *Mr. Millett.* Islands of Pootoy (or Grand Ladrone), Chicow, and the Lama; *Rev. G. H. Vachell, n.* 91.

Willdenow's description is scarcely sufficient, nor did he seem to know from whence his specimens came: if our species prove distinct, it may be called *C. Loureiri,* for it is undoubtedly the plant of Lou-

reiro. In *C. cana* of Linnæus, Vahl, Roxburgh, and Wallich, the leaves are cuneate at the base, becoming, as it were, half decurrent along the petiole. Either the present or the following one is probably *C. Reevesii* of Wallich's List, which we have not seen.

2. Callicarpa *nudiflora;* ramis petiolis foliis subtus corymbisque cano-velutinis, foliis oblongo-lanceolatis basi ovatis margine crenato-dentatis supra nervis venisque incanis cæteroquin glabratis lævibus junioribus pulverulentis, pedunculis folio subdimidio brevioribus, corymbis dichotomis laxis, calyce glabro, staminibus exsertis. (TAB. XLVI.)

HAB. Canton; *Mr. Millett.* Lappas island; *Rev. G. H. Vachell, n.* 263.

TAB. XLVI. Callicarpa nudiflora. *Fig.* 1. Flower:—*magnified.*

1. Vitex *ovata;* foliis simplicibus obovatis breve-petiolatis subtus albo-incanis, racemis axillaribus terminalibusque compositis. (TAB. XLVII.)—*Thunb. Jap. p.* 257.

HAB. Canton; *Mr. Millett; Rev. G. H. Vachell, n.* 174.

TAB. XLVII. Vitex ovata. *Fig.* 1. Flower:—*magnified.*

2. Vitex *Negundo. Linn.—Lour. Fl. Coch.* 2. *p.* 474.

HAB. Islands near Macao; *Rev. G. H. Vachell, n.* 279.

3. Vitex *Loureiri;* ramis foliisque ternato-quinatis utrinque glabris, foliolis oblongo vel obovato-lanceolatis obtuse acuminatis basi cuneatis venosis nitidis integerrimis, paniculis terminalibus vel ex axillis superioribus pubescentibus erectis decompositis strictiusculis. (TAB. XLVIII.)—Cornutia quinata. *Lour. Fl. Coch.* 2. *p.* 470.

HAB. Canton; *Mr. Millett.*

We have not seen the fruit; Loureiro states it to be one-seeded, probably from abortion.

TAB. XLVIII. Vitex Loureiri. *Fig.* 1. Flower:—*magnified.*

ORD. LXIII. ACANTHACEÆ. *Juss.*

1. Barleria *cristata. Linn.—Nees ab Esenb. in Wall. Pl. As. Rar.* 3. *p.* 92. *n.* 10.

HAB. Lappas Island or the Peninsula; *Mr. Vachell, n.* 170. Canton; *Mr. Millett.*

1. Dilivaria *ilicifolia. Juss.—Nees ab Esenb. l. c. p.* 98. *n.* 1.

HAB. Whancum Island, near Macao; *Rev. G. H. Vachell, n.* 121. Loureiro, Fl. Coch. 2. p. 456, states that the Canton plant differs a little from that which he describes from Cochin-China: the former is the same as our's; the latter is *D. ebracteata,* Juss.

1. Crossandra *infundibuliformis, β.; Nees ab Esenb. l. c. p.* 98. *n.* 1.—C. undulæfolia. *Ait.*—Justicia infundibuliformis. *Linn.*

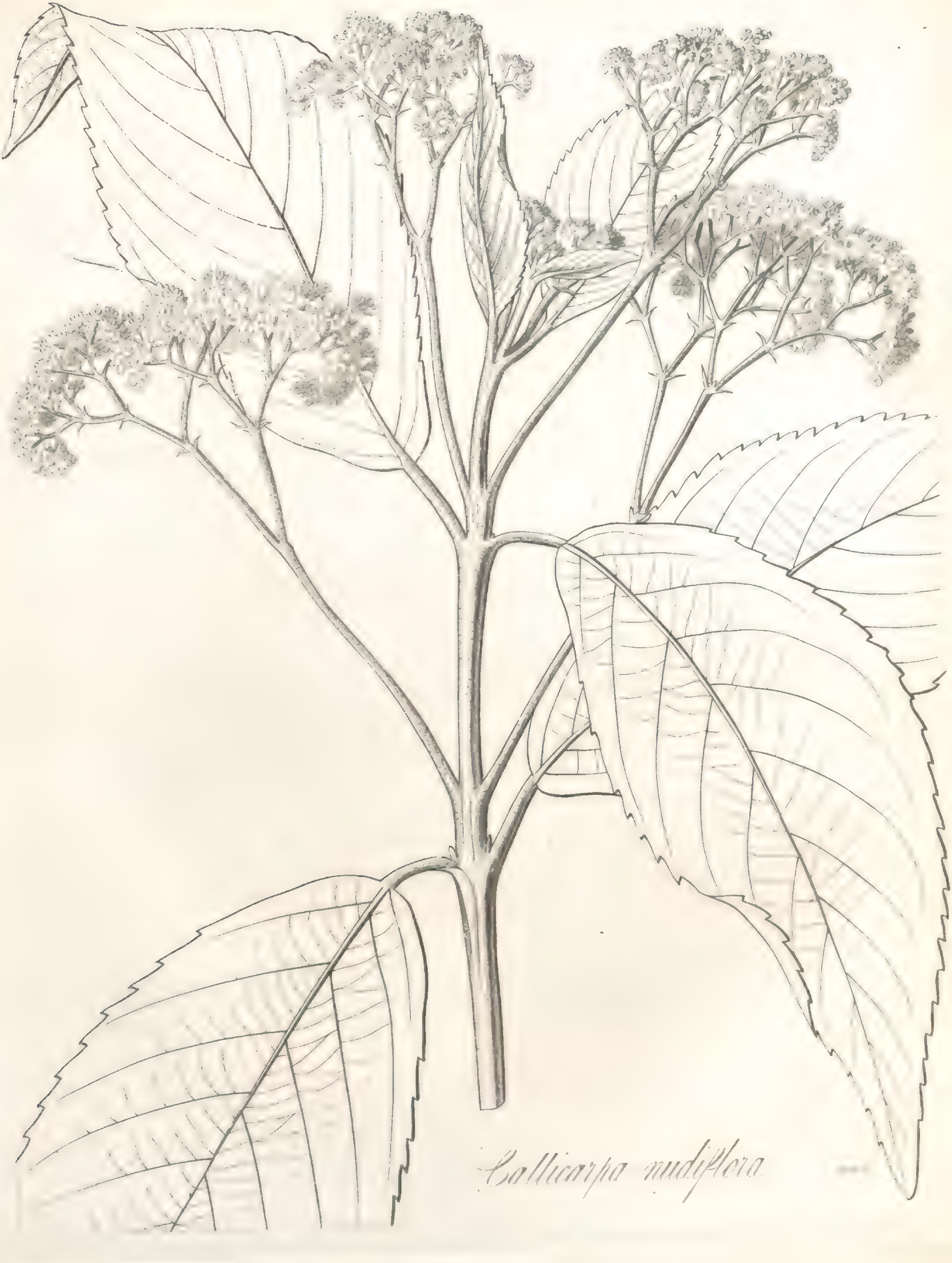
We fear that *C. oppositifolia,* Wight, (N. ab Esenb. l. c. n. 3.) is a mere form of this species.

1. Rostellaria *procumbens. Nees ab Esenb. l. c. p.* 101. *n.* 4.—Justicia procumbens. *Linn.*

1. Graptophyllum *hortense. Nees ab Esenb. l. c. p.* 102. *n.* 1.—Justicia picta. *Linn.—Lour. Fl. Coch.* 1. *p.* 29.

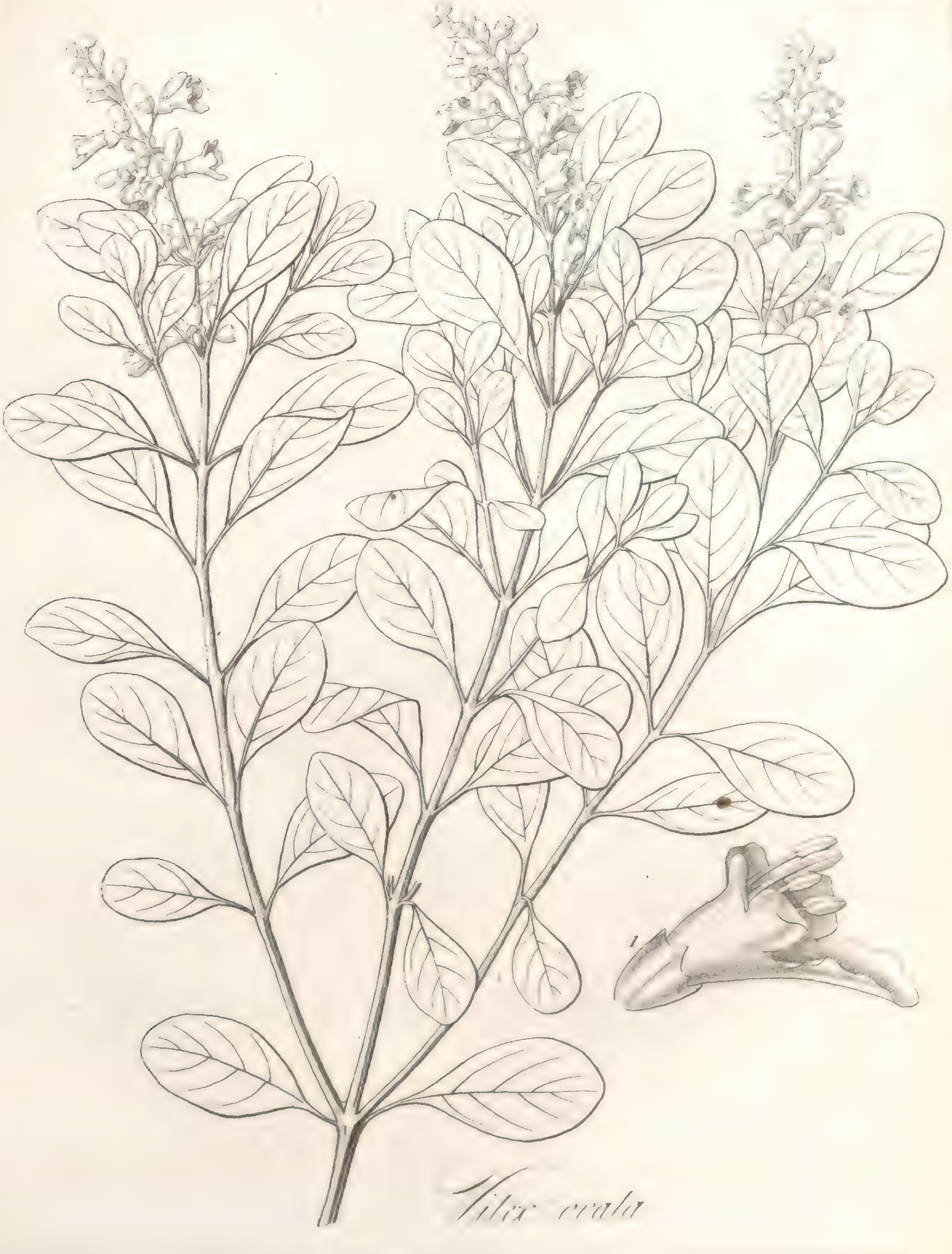
1. Adhadota *Vasica. Nees ab Esenb. l. c. p.* 103. *n.* 7.—Justicia Adhadota. *Linn.*

TAB. XLVI

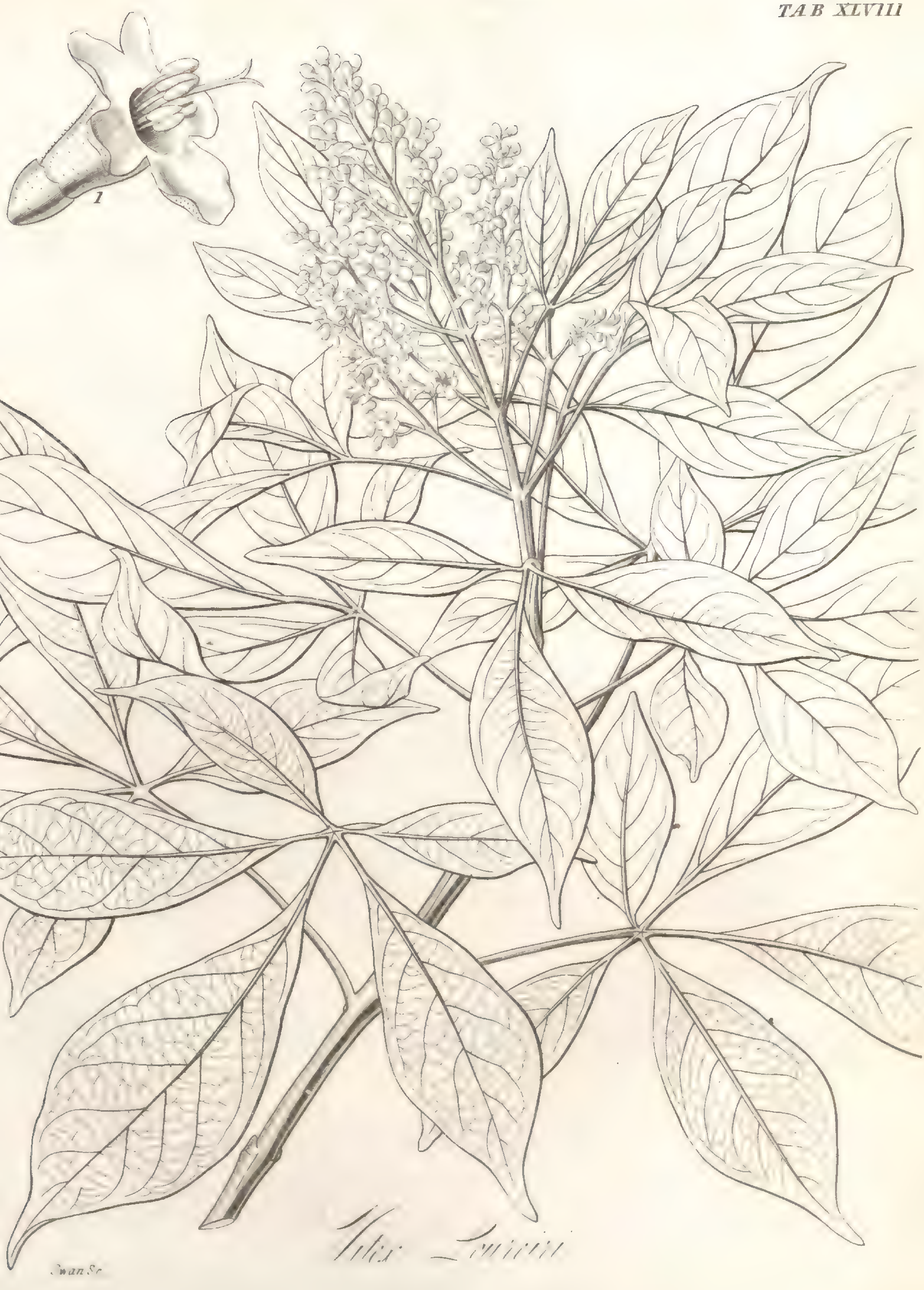


Callicarpa nudiflora

TAB. XLVII.



Vitex ovata



Vitex Lowiii

Swan Sc.

1. Dicliptera *Burmanni. Nees ab Esenb. l. c. p.* 112. *n.* 6.—Justicia Chinensis. *Burm. Fl. Ind. p.* 8. *t.* 4. *f.* 1. *Lour. Fl. Coch.* 1. *p.* 30. (*nec alior.*)

HAB. Canton; *Mr. Millett.* Lappas Island; *Rev. G. H. Vachell, n.* 177.

1. Peristrophe *tinctoria. Nees ab Esenb. l. c. p.* 113. *n.* 3.—Justicia tinctoria. *Roxb.* (non *Lour.*) *Fl. Ind.* 1. *p.* 123; (*ed Car. et Wall.*) 1. *p.* 124.—*Rumph. Herb. Am.* 6. *t.* 22. *f.* 1.

1. Hypoestis *purpurea. R. Br.—Nees ab Esenb. l. c. p.* 114. *n.* 2.—Justicia purpurea. *Vahl.—Lour. Fl. Coch.* 1. *p.* 31 (non *Linn.*)

HAB. Canton; *Mr. Millett.* Lappas Island; *Rev. G. H. Vachell, n.* 171.

ORD. LXIV. PLUMBAGINEÆ. *Juss.*

1. Plumbago *rosea. Linn.—Roxb. Fl. Ind.* 1. *p.* 463; *in Cæt. Merc. Ind. or. Mus. tab.* 555.—*Rheede, Mal.* 1. *t.* 9.—*Vachell, n.* 115.

ORD. LXV. NYCTAGINEÆ. *Juss.*

1. Mirabilis *Jalapa. Linn.—Lour. Fl. Coch.* 1. *p.* 123.

ORD. LXVI. AMARANTHACEÆ. *Juss.*

1. Achyranthes *aspera. Linn.—Roxb. Fl. Ind.* 1. *p.* 672. *Burm. Th. Zeyl. t.* 50. *f.* 3.

1. Celosia *argentea. Linn.—Roxb. Fl. Ind.* 1. *p.* 678. *Lour. Fl. Coch.* 1. *p.* 203.—*Vachell, n.* 92.

2. Celosia *cristata. Linn.—Roxb. Fl. Ind.* 1. *p.* 679.

We feel much disposed to agree with Sprengel, when he unites to this species *C. coccinea* and *C. castrensis*, Linn., as also *C. comosa*, Retz. *C. castrensis*, Lour. Fl. Coch. 1. p. 202, appears to be certainly our plant. We have likewise from Mr. Millett, a variety, perhaps, of this, but with very dissimilar spikes. If distinct, it may be thus described:—Glabriuscula; foliis petiolatis oblongo-lanceolatis basi apice attenuatis; spicis pedunculatis, elongatis, cylindraceis; flores inferiores discreti, superiores approximati, summi abortivi bracteolæformes; stylus gracilis, stigma bifidum ovarium pluri-ovulatum; utriculus 1-spermus; semen compressum, nitidum, atrum, cum aliisque abortivis. But as we have already remarked, we prefer considering this as a mere form of *C. cristata.*

1. Gomphræna *globosa. Linn.—Lour. Fl. Coch.* 1. *p.* 218; *Roxb. Fl. Ind.* 2. *p.* 63.

1. Alternanthera *sessiliflora. R. Br.*—Illecebrum sessile. *Linn. Lour. Fl. Coch.* 1. *p.* 202.—Achyranthes triandra. *Roxb. Fl. Ind.* 1. *p.* 678.

HAB. Lappas Island; *Mr. Millett.* Macao; *Rev. G. H. Vachell*, n. " *v.*"

1. Amaranthus *oleraceus. Linn.—Roxb. Fl. Ind.* 3. *p.* 605.

ORD. LXVII. CHENOPODIACEÆ. *Ventn.*

1. Chenopodium *acutifolium. Kit.?—Vachell, n.* 112.

We refer the Chinese plant here although there are some small points of difference, principally on account of its entire leaves, and panicled inflorescence of long and almost leafless spikes. The leaves (we have only seen the upper ones,) are elliptical, obtuse, and mucronate; the achenium is even on the surface, shining, and horizontal, as in the true species of *Chenopodium*.

2. Chenopodium *viride*. *Willd.?*—C. hybridum. *Lour. Fl. Coch.* 1. *p.* 217?

ORD. LXVIII. POLYGONEÆ. *Juss.*

1. Rumex *Chinensis*. *Campd. Rum. p.* 75.—R. denticulatus. *Dun. in Campd. l. c. p.* 143.—R. Loureiri. *Campd. l. c. p.* 142.—R. crispus. *Lour. Fl. Coch.* 1. *p.* 269.

We have received this from Mr. Millett. Probably, as Sprengel suggests, it is too closely allied to *R. persicarioides* and *R. maritimus*.

1. Polygonum *orientale β. pilosum*. *Meisn. in Wall. Pl. As. Rar.* 3. *p.* 54.—P. pilosum. *Roxb. Fl. Ind.* 2. *p.* 286.—Lagunæa Cochinchensis. *Lour. Coch.* 1. *p.* 272.

2. Polygonum *Persicaria*. *Linn.—Meisn. Polyg. p.* 68. *Lour. Fl. Coch.* 1. *p.* 296.

This we have only received from Lappas Island, both from Mr. Millett and Mr. Vachell, n. 113. *b*. Meisner, in his account of the East Indian *Polygoneæ*, in Wallich's Pl. As. Rar., does not enumerate this species, although in his original work on the genus, he mentions it as a native of the East and of China. *P. glabrum* appears to occupy its place in India; but, at the same time, the plant before us is certainly not *P. glabrum*, nor is it distinguishable from the European form of the species.

3. Polygonum *barbatum*. *Linn.—Lour. Fl. Coch.* 1. *p.* 296. *Roxb. Fl. Ind.* 2. *p.* 289. *Meisn. Polyg. p.* 80. *in Wall. Pl. As. Rar.* 3. *p.* 56.

4. Polygonum *perfoliatum*. *Linn.—Lour. Fl. Coch.* 1. *p.* 298. *Roxb. Fl. Ind.* 2. *p.* 288. *Meisn. Polyg. p.* 65; *in Wall. Pl. As. Rar.* 3. *p.* 59.

5. Polygonum *Chinense*. *Linn.—Lour. Fl. Coch.* 1. *p.* 297. *Roxb. Fl. Ind.* 2. *p.* 289. *Meisn. in Wall. Pl. As. Rar.* 3. *p.* 60.

Our specimen from Mr. Vachell, n. 110, is *var. α* of Meisner, or *P. polycephalum*, Wall. l. n. 1707. *a*; but one from Mr. Millett belongs to another variety; it is therefore probable that they are not constant.

ORD. LXIX. LAURINEÆ. *Juss.*

1. Tetranthera *Roxburghii*. *Nees ab Esenb. in Wall. Fl. As. Rar.* 2. *p.* 65.—T. apetala. *Roxb. Cor.* 2. *t.* 147; *Fl. Ind.* 3. *p.* 819.—Sebifera viscosa. *Lour. Fl. Coch.* 2. *p.* 783.—Tomex sebifera. *Willd.*—Berrya Chinensis. *Klein.*

Professor Nees Von Esenbeck, in the restricted generic character which he proposes, says that the three inner stamina alone bear stipitate glands; we, however, have sometimes found both the inner series furnished with them, exhibiting, altogether, twelve glands. Roxburgh, in his Fl. Ind. at p. 820, confirms this: "Nectarial glands from six to sixteen, shortly pedicelled, oval, peltate, alternate with the filaments, but three times shorter."

2. Tetranthera *monopetala*. *Roxb. Cor.* 2. *t.* 148; *Fl. Ind.* 3. *p.* 821. *Nees ab Esenb. in Wall. Fl. As. Rar.* 2. *p.* 66.—Tomex Japonica. *Thunb.*

We agree with Roxburgh, that *Tomex Japonica* is not distinct from this species; and though Nees Von Esenbeck keeps them so, he doubts if they ought not to be regarded as mere varieties.

1. Iozoste *rotundifolia*, var. *oblongifolia*. *Nees ab Esenb. in Wall. Fl. As. Rar.* 2. *p.* 63.—Litsæa Chinensis. *Blume.*

Dioica.—Fl. Masc. Perianthium 6-partitum. Stamina 9: filamenta pilosa, tria interiora ad basin glandulis duabus magnis rotundis sessilibus instructa.—We have not yet received the female plant.

1. Cassytha *filiformis*. *Linn.*—*Roxb. Fl. Ind.* 2. *p.* 314. *Nees ab Esenb. in Wall. Fl. As. Rar.* 2. *p.* 69.—Calodium Cochinchense. *Lour. Fl. Coch.* 1. *p.* 302.—*Vachell*, "*m.*"

Ord. LXX. THYMELEÆ. *Juss.*

1. Daphne *Indica*. *Linn.*—*Vide in hoc Op. p.* 68. *t.* 15. *Vachell, n.* 138.

Ord. LXXI. NEPENTHEÆ. *Link.*

1. Nepenthes *Phyllamphora*. *Willd. Sp. Pl.* 4. *p.* 874. *Sims Bot. Mag. t.* 2629. *Brong. in Ann. Scienc. Natur.* 1. *p.* 48. *Spr. Syst. Veget.* 3. *p.* 84.—N. distillatoria. *Lodd. Bot. Cab. t.* 1017. *Graham in Ed. New Phil. Journ. n.* 6. *p.* 371. *et n.* 16. *p.* 379. *t.* 6. *Hook. in Bot. Mag. t.* 2798. *Wall.? List of E. I. Plants, n.* 2244. (non *Linn.*)—Phyllamphora mirabilis. *Lour. Fl. Coch.* 2. *p.* 744. *Rumph. Herb. Am.* 5. *t.* 59. *f.* 2? *Vachell, n.* 74.

Such are the only synonyms we are disposed to adduce here; almost all the others quoted in the Botanical Magazine belong to the Ceylon plant, which is that described in *Fl. Zeylanica*, p. 151. n. 321, consequently, we presume, of Hermann's Herbarium, and therefore, the original *N. distillatoria* of Linnæus. Lamarck, and, following him, Brongniart, have given to this latter the name of *N. Indica*, a name as objectionable as that bestowed by Linnæus. The true *N. distillatoria* has been only met with in the island of Ceylon, and in the Courtallum district, towards the south extremity of the Peninsula of India. The present species is a native of China, and the mountains of Silhet, to the north-east of Bengal; but certainly not, as has been inadvertently said in the Bot. Mag. under t. 2798, of the Circar mountains, which lie to the north of the Peninsula. The differences between these two species are well pointed out by Brongniart, in the first volume of the Annales des Sc. Naturelles, pp. 43 and 48. *N. distillatoria* has a compound raceme, or rather a panicle, each partial peduncle being branched, and bearing several spreading pedicels and flowers. The Chinese one, on the contrary, has a long perfectly simple raceme. Dr. Graham has observed, that in a state of cultivation, some of the partial peduncles are occasionally bifid, or trifid, and our specimens from the Edinburgh Botanic Garden exhibit the same appearance; but this seems merely to arise from luxuriance; not one of the very numerous specimens, both of the male and female, we have from time to time received from Mr. Millett, principally collected in Lappas Island, presenting any such tendency. We place little reliance on the leaves being petioled, nor, perhaps, ought the apparent petiole of *N. Phyllamphora* to be regarded as more than an attenuation of the base of the leaf. Rumphius' figure is very bad; Loureiro's description is on the whole accurate, although the line-like parallel longitudinal veins are scarcely conspicuous, and only so on the under-side of the leaf: the "spica longa, simplicissima" is very characteristic: his "caulis simplicissimus" less so, unless we suppose either that he had only seen young plants, or, what is more probable, taken that part of his description from Rumphius' figure: in the wild state, however, the stem appears to be much more simple than when cultivated. M. Brongniart, in his memoir, above quoted, places too much dependance on the ascidia being furnished with, or nearly destitute of winged longitudinal ribs: such marks afford no character whatever, those on young plants being very large and crest-like, while the ascidia on older ones of the same species present mere ribs. Our specimen of *N. distillatoria* from Dr. Wallich (n. 2244) has no flowers; the leaves are more sessile, and much narrower than in the Chinese plant, and the crests or ridges of the ascidia are ciliated with longish hairs. We observe that Dr. Wallich's collection was obtained from Singapore, Silhet, the Calcutta Botanic Garden, and Courtallum; the first is probably identical with Rumphius' plant, the last with the Ceylon one, and the two others with that cultivated in this country, the seeds of which were forwarded by the late Dr. Carey.

Ord. LXXII. EUPHORBIACEÆ. *Juss.*

1. Glochidion *Sinicum.*—Bradleia Sinica. *Gærtn.—Roxb. Fl. Ind.* 3. *p.* 700.—Phyllanthus villosa. *Poir. in Lam. Enc. Meth.* 5. *p.* 297*?*

We have only received it from Rev. G. H. Vachell, n. 153, collected in Lappas Island.

2. Glochidion *molle;* ramulis compressis, petiolis pedunculisque pubescentibus, foliis petiolatis ovalibus basi retusis apice vix acuminatis subtus molliter pubescentibus, adultis supra glabris nervis pubescentibus, pedunculis petiolo subdimidio brevioribus multifloris, pedicellis masculis pedunculos subæquantibus, fœmineis filiformibus 2-3-plo longioribus.—Phyllanthus obscurus. *Willd.?*

From Roxburgh's character, this appears to be closely allied to his *Bradleia hirsuta* (Fl. Ind. 3. p. 699). In the few specimens we have seen, and which we owe to Mr. Millett, the ovary and young fruit are constantly injured by insects: we refer it, however, without hesitation, to *Glochidion*, as defined by M. Adrien de Jussieu, from the structure of the male flower and of the stigma. We may remark, that the character given by him must be altered, if *Bradleia pinnata*, Roxb., in which the fruit is said to have 8-10 cells, and *B. multilocularis*, Roxb., or *Agyneia multilocularis*, Willd., belong to it; this last has 8-12 anthers.

1. Phyllanthus *Niruri. Linn.* (excl. syn. *Rheed.*)—*Roxb. Fl. Ind.* 3. *p.* 659 *certe* (excl. syn. *Rheed.*) *Pluk. Phyt. t.* 183. *f.* 5. *Burm. Thes. Zeyl. t.* 93. *f.* 2. *Rheed. Hort. Mal.* 10. *t.* 16*?* (certe non t. 15.) *Rumph. Herb. Am.* 6. *t.* 17. *f.* 1.

We can scarcely clear up the synonyms between this and *P. urinaria*, Linn., nor are we quite certain that we are not reversing the appellations given by Linnæus. What we here call *P. Niruri*, has smaller leaves than *P. urinaria*, and the capsule is perfectly smooth and even, which, in the other, is covered with numerous flattened small scale-like tubercles. To our *P. urinaria* belong Rumph. Amb. 6. t. 17. f. 2, and Rheed. Mal. 10. t. 15, which last represents faithfully our specimens from the Peninsula of India, from Dr. Wight: indeed, although this figure has been always quoted for *P. Niruri*, Rheede says decidedly, that the *gemmæ* or capsules "sunt *in superficiæ velut granulatæ* ac in sex cancellos suturis distinctæ." Plukenet's t. 183. f. 6, seems distinct from either, unless it be a narrow-leaved form of *Ph. Niruri.* Linnæus describes *P. urinaria* as the smaller plant of the two, and as having procumbent stems: we find it as large, and both to be erect. If, then, Linnæus be correct in his reference to Rheede, our *P. Niruri* must be his *P. urinaria*, and *vice versa.* Both *P. Niruri* and *urinaria* of Poiret, in Lam. Encycl., appear to belong to our *P. Niruri.*

2. Phyllanthus *lucens. Poir.* (1804.) *in Lam. Enc.* 5. *p.* 296.—P. turbinatus. *Sims* (1816.) *in Bot. Mag. t.* 1862. (non *Koen.*)—Nymphanthus rubra. *Lour. Fl. Coch.* 2. *p.* 665*?*

Our difficulty about Loureiro arises from his saying, that the male and female flowers spring from the same axils, which is not the case in our plant. As the name *turbinatus* was applied by Sims to this, while Koenig and Roxburgh intended by it another species, (that figured by Rheede in his Hort. Mal. 5. t. 43, which differs by the shape of the leaves, and several other characters,) we have availed ourselves of the older appellation given by Poiret. The Chinese plant, with *P. turbinatus*, Koen., *P. patens*, Roxb., *P. vitis-Idea*, Koen., and Roxb. (Rheed. Hort. Mal. 5. t. 44.) form a small groupe, with turbinate male perianths, as are represented by M. Adr. de Jussieu, in his *P. tristis*, Euph. p. 22. t. 5. f. 16. B. To these M. de Jussieu adds *P. cernuus* and *P. rhamnoides.* We suspect that he, as well as Poiret, mean by this latter Koenig's and Roxburgh's *P. vitis-Idea;* indeed, we are almost sure of it, for at p. 108 he looks on *P. rhamnoides* as, perhaps, the same with his *P. tristis.* What Retz's and Willdenow's *P. rhamnoides* is, we scarcely know, the synonyms adduced by the latter belonging to several very different plants. Roxburgh's species of that name has the male flowers racemed, and six scales on the middle of the leaflets of the perianth, "pointing inwards, before the flower expands, so as to cover the anthers like so many hoods:" he compares it with *P. pendula*, Roxb., and this last is, "when young, not unlike *Niruri.*" We have received *P. lucens* from Mr. Millett and Mr. Vachell, n. 95.

3. Phyllanthus *cinerascens;* frutex glaber, ramis striatis cortice cinereo, foliis parvis obovatis vel ovalibus obtusissimis vel retusis coriaceis glabris approximatis fasciculatis vel 2-4 ad ramulos breves juniores, floribus 3-5-nis breve pedicellatis 6-fidis.

The only specimen we have seen, sent by Mr. Millett, is very imperfect. The leaves scarcely exceed a third of an inch: the flowers (we have only observed the male ones,) arise from a small scaly tubercle, or abortive branchlet; their structure is precisely that of *P. lanceolata*, Adr. de Juss. Euph. t. 5. n. 16. A. f. 2.

1. Bridelia *Loureiri;* ramulis pubescentibus virgatis, foliis oblongis acutiusculis utrinque glabris, stipulis minutis deciduis, floribus plurimis axillaribus glomeratis sessilibus, processubus petaloideis late cuneatis apice grosse dentatis perianthio vix dimidio brevioribus, stylo trifido.—Cluytia monoica. *Lour. Coch.* 2. *p.* 784.

This was received, about ten years ago, in Sir Wm. J. Hooker's first packet from Mr. Millett. The flowers are sometimes 6-cleft, and with 6 anthers. It approaches very closely to *B. patula*, but seems to differ in several particulars.

M. Adrien de Jussieu has remarked, (Euphorb. Tent. p. 25.) that although four or five of the East Indian species of *Cluytia* agree with *C. pulchella* and the other Cape ones, in having a trifid style, and three-celled fruit, he is rather disposed to unite them with *Bridelia*, and make the principal difference between that genus and *Cluytia* to depend on the disk that lines the bottom of the perianth, (as in some genera of the *Rhamneæ*) unaccompanied with the bifid or trifid appendages that alternate with the petaloid bodies, and characterise the Cape species. We have, therefore, inserted Loureiro's plant in *Bridelia*, and this, with *C. stipularis*, Linn., *C. diversifolia*, Roxb., *C. collina*, *C. patula*, and *C. oblongifolia*, will constitute a section distinguished by the trifid style and trilocular capsule. It is probable that *C. semperflorens*, Roxb. Fl. Ind. 3. p. 730, from Silhet, must form a genus (SILVÆA, Hook. et Arn.) distinct from either; in it there appear to be in the male, five glands that alternate with the insertion of the petaloid processes, instead of a disk, and the petaloid processes are of a deep purple colour; there are six anthers. In the female, the petaloid processes are wanting, but the ovary is surrounded at the base by a pentagonal ring, similar to what almost always usurps the place of a disk in the female flowers of *Bridelia.* The species belonging to the groupe with a three-celled fruit, may be thus distinguished:—

§ 1. *Stipulæ majusculæ.*

1. B. *stipularis;* foliis ovalibus subtus tomentosis, stipulis ovatis acutis.—Cluytia stipularis. *Linn.*

2. B. *diversifolia;* foliis utrinque glabris ex obovatis obtusis in late lanceolata acuta, stipulis ensiformibus, floribus sessilibus, processubus petaloideis rotundato-obovatis.—Cluytia diversifolia. *Roxb. Fl. Ind.* 3. *p.* 731.

§ 2. *Stipulæ parvæ vel minutæ.*

3. B. *collina;* foliis ovalibus glabris, floribus paucis glomeratis breviter pedicellatis, processubus petaloideis minutis lanceolatis integerrimis.—Cluytia collina. *Roxb. Cor.* 2. *t.* 169; *Fl. Ind.* 3. *p.* 732.

4. B. *patula;* foliis ovali-oblongis apice attenuatis glabris, floribus subsessilibus glomeratis vel glomerato-spicatis, processubus petaloideis rotundatis unguiculatis crenulatis perianthio pluries brevioribus.—Cluytia patula. *Roxb. Cor.* 2. *t.* 170; *Fl. Ind.* 3. *p.* 733.

5. B. *Loureiri.—vide supra.*

6. B. *oblongifolia;* foliis oblongis acutis glabris subtus glaucis, floribus numerosis glomeratis vel glomerato-spicatis, processubus petaloideis obcordatis 3-dentatis perianthio brevioribus.—Cl. oblongifolia. *Roxb. Fl. Ind.* 3. *p.* 730.

In this last, Roxburgh does not describe the disk of the male flowers, nor the stipules; had, however, the latter been large or conspicuous, he could not have overlooked them: the former, we presume, to be present, from its appearing in the female, as in most of the species, in the shape of a cup, round the base of the ovary. In offering these characters, we have relied for some on Roxburgh's accuracy, in the absence of authentic specimens: were we inclined to dispute it, it would be in the instance of his *Cl. semperflorens,* above mentioned, where it is possible that the five glands in the male flower, may prove to be merely thickened angles to an otherwise thin disk, as in some species of *Gouania.*

1. Rottlera *Chinensis;* fruticosa, foliis longe petiolatis late ovatis acuminatis, basi subcordatis biglandulosis obscure dentatis supra glabris subtus albidis subtomentosis, spicis fœmineis simplicibus longe pedunculatis, capsulis demum confertis setis longis mollibus echinatis. —R. Chinensis. *Adr. de Juss.—Spr. Syst.* 3. *p.* 878.—Croton Chinensis. *Weig.—Vachell, n.* 292.

Perianthium fœm. cupuliforme 3-4-5-fidum (trifidum lobis 1 vel 2 postea fissis:) *Stigmata* 3, subsessilia, recurva, lineari-oblonga, crassa, intus dense papilloso-hirsuta.—Perhaps, notwithstanding some discrepancies, this may be also *Ricinus apelta,* Lour., and consequently likewise Sprengel's *Rottl. Cantoniensis.* We have not seen the male plant.

2. Rottlera *paniculata;* fruticosa, foliis rhombeo-ovatis tricuspidatis acuminatis integerrimis vel subdentatis longe petiolatis basi biglandulosis supra glabris subtus brevissime ac molliter tomentosis rufescenti-albidis, floribus masc. paniculatis axillaribus terminalibusque, fœm. . . . . . . —R. paniculata. *Adr. de Juss.? Spr. Syst. Veg.* 3. *p.* 877?—Croton paniculatum. *Lam.?*

Lamarck's plant is from Java, and his description agrees tolerably well with the Chinese one: whether either be the *Mallotus Cochinchensis* of Loureiro (2. p. 780,) we have no means of determining, the description given being at variance in several respects; but, at the same time, it is highly probable that the male plant he saw at Canton is the same as ours: he adds, "Fœmineus flos ibi non occurrit;" nor have any of our correspondents, as yet, sent it. This is n. 258 of Mr. Vachell's collection.

1. Ricinus *communis. Linn.—Roxb. Fl. Ind.* 3. *p.* 689.

1. Jatropha *multifida. Linn.*

1. Claoxylon *parviflorum;* foliis ad ramulorum apices approximatis longe petiolatis elliptico-vel rhombeo-oblongis dentato-serratis (dentibus incurvis) supra glabris subtus molliter pubescentibus, nervis venisque subtomentosis, racemis (masculis) longissimis folia duplo excedentibus interruptis, floribus fasciculatis breve pedicellatis, perianthio 3-4-partito. C. parviflorum. *Adr. de Juss. Euph. p.* 43. *t.* 14. *n.* 43. *Spr. Syst.* 3. *p.* 906.—Acalypha spiciflora. *Burm. Fl. Ind. p.* 303. *t.* 61. *f.* 2. (excl. syn. omnibus.)

We have here added a specific character, M. de Jussieu having mentioned three other species from the Mauritius. The present one was long involved in the greatest obscurity, on account of the synonyms associated with it by Burmann. There does not appear to be any plant described by Roxburgh or Willdenow to which it is referable: in habit it approaches to *Croton oblongifolium*, Roxb. Fl. Ind. 3. p. 85.

1. Acalypha *Indica. Linn.—Roxb. Fl. Ind.* 3. *p.* 675.

2. Acalypha *Chinensis;* caulibus pubescentibus herbaceis, foliis sublonge petiolatis rhombeo-ovatis crenatis, spicis androgynis axillaribus petiolum æquantibus vel superantibus, florum fœmineorum fasciculis solitariis binisve bracteatis, masculis terminalibus in spicam pedicellatam capitatam vel longiusculam dispositis, bracteis fœmineis cordatis acuminatis crenatis, fructu hispido. A. Chinensis. *Roxb. Fl. Ind.* 3. *p.* 677*?*

Roxburgh ascribes to his plant, so far as we can collect from the description, a single cluster of female flowers and a small capitulum of male ones from a solitary bractea: some of the spikes on the specimens before us agree with that character, but others show two bracteas, and in one, where the inflorescence is almost terminal, the male flowers form a slender spike of about half an inch in length.

3. Acalypha *hispida. Willd.*—Urtica pilosa. *Lour. Fl. Coch.* 2. *p.* 682. *Roxb. Fl. Ind.* 3. *p.* 676 (non *Cav.* nec *Willd.*)—*β. pubescens.* A. flexuosa. *Herb. Wight, olim.*

We have only received var. β from Canton. It is merely distinguished from the type of the species by its stems not being hispid with spreading hairs, but simply pubescent. We possess both from the Peninsula of India.

1. Stillingia *sebifera. Mich.*—Croton sebiferum. *Linn.*—Sapium sebiferum. *Roxb. Fl. Ind.* 3. *p.* 693.—Triodica Sinensis. *Lour. Fl. Coch.* 2. *p.* 749.

1. Euphorbia *thymifolia. Linn.—Roxb. Fl. Ind.* 2. *p.* 473.

Involucri glandulæ 4, pallidæ, orbiculares, disciformes, processubus concoloribus suffulcientibus minutis inter se subæqualibus duplo minores: *fructus* parce strigosi, parvi: *semina* ecarunculata, brunnea, obtuse tetragona, transverse subundulata.—The flowers occur several together in the axils, but they are very shortly peduncled, often almost sessile. This, with the following, belongs to Dr. Roeper's first section, characterised by the seeds destitute of a caruncula, and the glands of the involucre resting on one side of a more or less membranaceous scale or process, which he properly suggests ought to be regarded as analogous to stipules, they only occurring in the species provided with stipules.

2. Euphorbia *pilulifera. Linn.*—E. hirta. *Linn.? Hook. et Arn. supr. p.* 95.

Involucri glandulæ minutæ, sanguineæ, orbiculares, processubus ejusdem fere coloris ac substantiæ et vix glandula majoribus suffultæ: *fructus* trigoni, strigoso-pilosi. *semina* brunnea, tetragona, leviter rugulosa, caruncula arillari destituta.—It is n. 100, *a, b, c,* of Mr. Vachell's collection.

3. Euphorbia *Vachellii;* annua, erecta, glabra, glauca, foliis oppositis brevissime petiolatis linearibus acutis argute serrulatis, inflorescentia axillari fasciculata laxiuscula, involucri glandulis 4 minutis orbicularibus concaviusculis processubus petaloideis albis majusculis orbicularibus paullo inter se inæqualibus suffultis, fructibus lævibus glabris, seminibus globoso-tetragonis atro-griseis subrugulosis caruncula destitutis angulo unico sulco levissimo exarato.

Hab. Macao; *Rev. G. H. Vachell, n.* 241.

4. Euphorbia *bifida;* glaberrima, glauca, caule decumbente, foliis oppositis breve petiolatis lineari-oblongis basi oblique subcordatis obtusis serrulatis, inflorescentia bifida dichotoma,

foliis floralibus ad ejus ramificationum bases duobus oppositis parvis sursum decrescentibus deciduis, involucri glandulis orbicularibus disciformibus concaviusculis processu luteo orbiculari carnosulo duplo majore suffultis, processubus inter se æqualibus, capsulis glabris lævibus, seminibus subgloboso-tetragonis leviter rugulosis caruncula arillata destitutis angulo unico sulciformi.

Hab. Peninsula of China; *Rev. G. H. Vachell, n.* 240.

Ord. LXXIII. URTICEÆ. *Juss.*

1. Urtica *Millettii;* herbacea, dioica? foliis alternis longe petiolatis subcordato-ovatis acuminatis dentato-serratis supra piloso-scabriusculis subtus pubescenti-scabris, capitulis florum masc. axillaribus pedunculatis, pedunculis petiolo duplo brevioribus.

We have seen but one specimen, and that very imperfect; it was sent by Mr. Millett.

1. Boehmeria? *nivea.*—Urtica nivea. *Linn.—Spreng. Syst. Veg.* 3. *p.* 843. *Lour. Fl. Coch.* 2. *p.* 683.—U. tenacissima. *Roxb. Fl. Ind.* 3. *p.* 590.

The female perianth is urceolate as in *Boehmeria*, not 2-valved as in *Urtica*. Roxburgh hesitates about his plant being the same as *U. nivea*, from Loureiro's erroneous description of the female flower, "germen filamentis multis sterilibus circumdatum:" but Loureiro must have taken either the hairs on the ovary, or the styles of the other flowers, for "sterile filaments." The style is simple, with one, not two stigmas, as Loureiro says.

2. Boehmeria *alienata. Willd. Sp.* 4. *p.* 341 ?—B. Cochinchinensis. *Spr.*—Urtica alienata. *Roxb. Fl. Ind.* 3. *p.* 582. (an *Linn.?*)—Parietaria Cochinchinensis. *Lour. Fl. Coch.* 2. *p.* 804.—P. Zeylanica. *L.*—Herba memoria. *Rumph. Herb. Amb.* 6. *t.* 12. *f.* 2?

Willdenow describes this as an herbaceous perennial, and Sprengel, we know not for what reason, inserts the Ceylon plant among the shrubby species. Linnæus mentions it as herbaceous, but does not speak of its duration: Roxburgh finds it annual. We have not seen the root, but the stems are certainly herbaceous. The specimens before us, from Mr. Millett, have the leaves opposite on the primitive stem only, and alternate on the branches, thus differing from both Loureiro's and Roxburgh's description, but agreeing in that respect with Roxburgh's *U. tuberosa;* this last, however, seems to have a differently shaped female perianth. The habit is quite that of a *Parietaria*, and although it and several of Roxburgh's species of *Urtica* present almost no difference in character from *Boehmeria*, they possibly ought to form a distinct genus, or at least a sub-genus. One specimen before us is simple with larger leaves, and all of them opposite, exhibiting more the habit of a small *Urtica;* this form agrees with Loureiro's character, but it seems to be merely a younger state of the other.

1. Trophis *scandens;* caule scandenti inerme, foliis breve petiolatis lineari-oblongis subiter obtuse acuminatis integerrimis utrinque glabris venosis lævibus, floribus axillaribus, masc. dense spicatis, fœm. paucis intra receptacula suberosa pedunculata 1-5-na aggregatis, fructibus oblongis.—Caturus scandens. *Lour.* 2. *p.* 751.

Hab. Canton; *Mr. Millett.*

Dioica. *Caulis* scandens, glaber, brunneus, punctis albidis adspersus. *Spinæ* nullæ. *Folia* alterna, rigida, breviter petiolata, anguste oblonga, basi subcordata, apice subiter acuminata, acumine longiusculo obtuso, utrinque glabra, tactu lævia, subundulata, supra lævissima, subtus nervis venisque protuberantibus notata, margine integerrima et ob venas ad margines attingentes subrepanda et ad speciem hic illic minute denticulata. *Petiolus* lineam longus. *Spicæ* MASC. solitariæ vel binæ, pedunculatæ, fere sesquiunciam longæ, cylindraceæ, lineam crassæ. *Pedunculus* petiolo paullo longior. *Flores* arcte approximati. *Perianthium* tripartitum, segmentis late ovalibus. *Stamina* tria; filamenta per æstivationem erecta; (antheris pendulis,) postea plana linearia perianthio duplo longiora, transverse striata, elastica. *Pistillum* abortivum, cylindricum, gracile, breve. *Receptacula* FŒM. parva, semine *piperis nigri* minora nec postea succrescentia, suberosa, tomentosa, pedunculata, pedunculis solitariis axillaribus vel 1-5 umbellatis in ramulo axillari brevissimo brevibus petiolum subæquantibus, flores paucos (3-5) includentia; *stylo* brevi; *stigmatibusque* duobus longis filiformibus exsertis. *Perianthium* utriculatum, glabrum, ovarium omnino tegens, apice perforatum et per ostiolum stylum protrudens, postea cum fructu auctum, crustaceum et pro pericarpio facile habitum. *Ovarium* uniloculare, uni-ovulatum. *Ovulum* suspensum. *Fructus* oblongus, crustaceus, unilocularis, monospermus. *Semen* suspensum. *Albumen* parcum, gelatinosum, forsitan in semine revere maturo nullum. *Embryo* curvatus: *cotyledones* conduplicati, inæquales, subchrysaloidei: *radicula* supera.

This species approaches most to *T. spinosa,* Willd. (not Roxburgh,) or *Batis spinosa,* Roxb., but in that there are four stamens, thorns on the branches, roundish capituli of male flowers, and, from the receptacle of the female flowers enlarging and becoming fleshy, the fruit appears to remain enclosed, and never to be exserted. There can be no doubt but all the species of *Trophis* have a true monophyllous perianth enclosing the ovary, similar to what we have recognized.—We shall here add the following abridged synopsis of all the species which have been hitherto described:—

§ 1. *Flores fæminei spicati, nudi.*

1. T. Americana. *Linn.*

§ 2. *Flores fæminei glomerati, intra receptaculum globosum inclusi.*

2. T. *scandens;* triandra inermis, fl. masc. spicatis.

3. T. *fruticosa;* spinosa, foliis oblongis acuminatis.—*Wall. List of E. I. Plants, n.* 4643?—Batis fruticosa. *Roxb. Fl. Ind. 3. p.* 763.

4. T. *spinosa;* tetrandra spinosa, foliis oblongis, fl. masc. capitatis.—T. spinosa. *Willd.*—T. aculeata. *Roth?*—Batis spinosa. *Roxb. Fl. Ind. 3. p.* 762.

§ 3. *Flores fœm. solitarii, receptaculo 4-6-phyllo impositi.*

5. T. *taxiformis;* spinosa, foliis lævibus, receptaculi foliolis fructu duplo longioribus. *Spr. Syst.* 3. *p.* 902.—T. taxioides. *Heyne in Roth, Nov. Sp. p.* 368.—T. spinosa. *Roxb. Fl. Ind.* 3. *p.* 762.

HAB. in jugis montium Circarensium.

6. T. *aspera;* inermis, foliis scabris, receptaculi foliolis fructum subæquantibus.—*Roxb. Fl. Ind.* 3. *p.* 761. *Wight in Hook. Bot. Journ.* 1. *p.* 63. *t.* 121.—Streblus asper. *Lour. Fl. Coch.* 2. *p.* 754.

T. laurifolia of Willdenow constitutes two species of *Styloceras, S. Kunthianum,* Adr. de Juss., and *S. laurifolium,* Kunth, and forms a genus among the *Euphorbiaceæ.* Perhaps *T. aculeata,* Roth, may belong to the *Flacourtianeæ.* We do not know *T.? Heyneana,* Wall. List of E. I. Plants, n. 4642. *T. cordata,* Poir., or *Streblus cordatus,* Lour., from Canton, is certainly not of this genus, but rather a *Broussonetia.*

1. Celtis *orientalis. Linn.*—*Roxb. Fl. Ind.* 2. *p.* 65.—C. Amboinensis. *Wall. List of E. I. Plants, n.* 3690. (an *Vent.?*)

The equality or inequality of the base of the leaf, affords, we believe, no character, both kinds sometimes appearing on the same branch. We have three forms before us from China; one in which the leaves are whitish on the underside, at least when young, and their length about thrice the breadth; a second has the

leaves narrower, (almost cordato-lanceolate) much acuminated, and fulvous on the under side; a third presents the leaves broader, cordato-ovate, and less acuminated than in the other two, (their length being about twice the breadth,) and also fulvous; but we do not consider these forms sufficiently constant to mark them out as distinct varieties. We had almost referred here *Trema Cochinchensis* of Loureiro; but now feel disposed, from his account of the seed, to consider it a species of *Antidesma.*

1. Ficus *pyriformis;* erecta? fruticulosa, foliis breviter petiolatis lineari-lanceolatis versus basin angustatis apice subiter et sublonge acuminatis utrinque glabris lævibus supra nitidis subtus pallidis, stipulis subulatis deciduis, receptaculis axillaribus solitariis clavato-pyriformibus (globosis basi valde angustatis) lævibus glabris folio subdimidio brevioribus.—F. clavata. *Wall. List of E. I. Plants, n.* 4495?

Dr. Wallich's plant differs in several particulars from this: the fruit in our specimen from him (n. 4495 *a.*) is considerably smaller, while the leaves are larger and rough to the touch on the under side.

2. Ficus *setosa;* arborea? ramis petiolis pedunculis receptaculis foliorumque nervis subtus hirsute flavido-pilosis, foliis breve petiolatis alternis oblongo-obovatis basi subcordatis et fere æqualibus apice acuminatis margine serratis, subtus ad venas piloso-pubescentibus supra hispido-strigosis, receptaculis globosis axillaribus solitariis binisve hispidissimis brevissime pedunculatis. (Tab. XLIX.)

This is altogether a very remarkable species: the setæ on the young receptacles (which, in the antheriferous state, are about the size of a very large pea) are peculiarly close, stout, and spreading. The shape of the leaves is precisely that of the Chinese form of *Grewia Microcos,* both sides being almost equal, and very similar to those of *F. scabra,* Jacq., but there they are opposite, and have much longer petioles; nor is the fruit by any means so setose as in our plant.

Tab. XLIX. Ficus setosa:—*nat. size.*

Ord. LXXIV. CHLORANTHEÆ. *R. Br.*

1. Chloranthus *inconspicuus. Sw.—Roxb. Fl. Ind.* 1. *p.* 438.—Nigrina spicata. *Thunb.*—Creodus odorifer. *Lour. Fl. Coch.* 1. *p.* 112.

Ord. LXXV. SAURUREÆ. *Rich.*

1. Saururus *cernuus. Linn.*

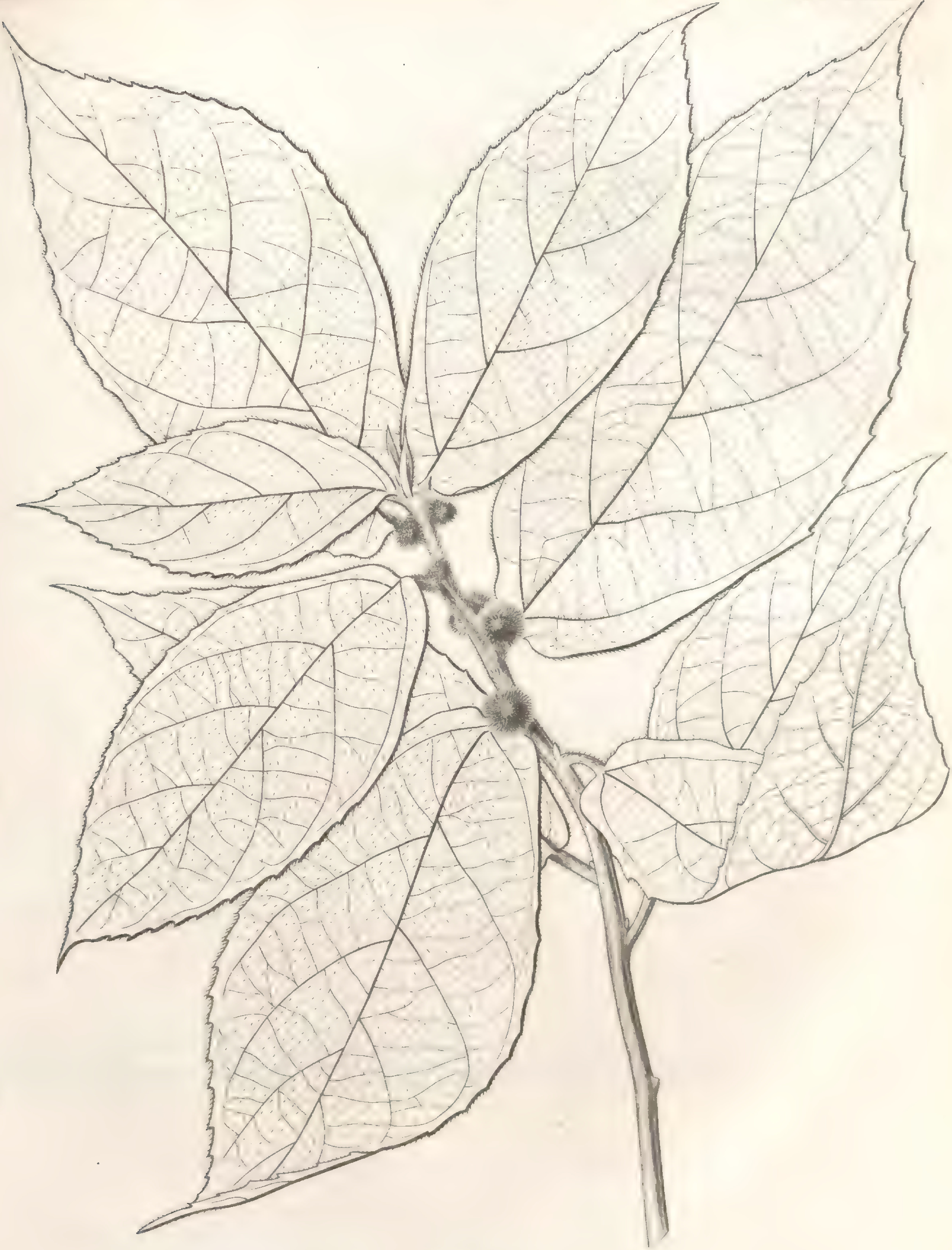
We can perceive no difference between the Chinese specimens from Mr. Millett, and those we possess from North America. The description of *Spathium Chinense,* Lour. Fl. Coch. 1. p. 270, although usually referred to *Aponogeton distachyum,* agrees in every point with this plant, except that we do not find what he calls a pedicelled one-flowered monophyllous spatha.

Ord. LXXVI. CONIFERÆ. *Juss.*

1. Juniperus *communis. Linn.?*—var. *Chinensis. Roxb. Fl. Ind.* 3. *p.* 839.

"Some few of the little twigs bear opposite imbricated small obtuse leaves" (Roxb.), which is the case in our specimens. Roxburgh likewise describes *J. Chinensis,* Willd., and three new species from China, which we have not seen: these are—

1. J. *aquatica;* foliis solitariis (alternis?) distichis linearibus haud mucronatis.



Ficus sativa

Vaan Sc

2. J. *Chinensis;* ramosa, valde patens, foliis ternis dense subimbricatis, mucronatis.

3. J. *cernua;* ramis tenuibus apicibus pulchre nutantibus, foliis ternis patulis mucronatis.

4. J. *dimorpha;* foliis ternis patulis mucronatis ad ramulos paucos subcomplanatos oppositis imbricatis minutis obtusis.

ORD. LXXVII. EMMENANTHUS. *Hook et Arn.*

Calyx 5-partitus, segmentis rotundatis obtusis persistentibus: æstivatio imbricativa. *Corolla* 5-petala; æstivatio imbricativa: petala (an potius sepala interiora?) sepalis alterna et subæqualia, tandem indurata persistentia. *Stamina* 10, subperigyna, 5 longiora: *antheræ* biloculares, cordato-subrotundæ. *Germen* globosum, liberum, 5-loculare, loculis biovulatis?; *ovula* collateralia, pendula. *Stylus* brevis. *Stigma* 5-angulatum, subsimplex. *Capsula* prismatico-oblonga, ad basin calyce corollaque persistentibus cincta, 5-locularis, septicide 5-valvis: carpellis dorso medio extus ad basin canaliculato intus introflexo, pseudo-bilocularibus, dispermis. *Semina* pendula, deorsum longe membranaceo-alata.—Caulis *lignosus, ramosus.* Folia *alterna, glabra,* 2½-4 *uncias longa, ovato-oblonga, obtusiuscula, integerrima, subtus minutissime punctulata, vix pellucido-punctata, penninervia, petiolata.* Petiolus *submarginatus, crenulatus, vix unciam longus.* Stipulæ *duæ subulatæ ad basin foliorum juniorum, valde caducæ.* Panicula *axillaris, dichotoma, pedunculata,* pedunculo *duas uncias longo.* Flores juniores *glutinosi.*

1. E. *Chinensis. Hook. et Arn.*

HAB. Canton; *Messrs. Lay and Collie.*

The specimens exhibit old fruit, from which most of the seeds have escaped, and such of the latter as remain are empty: there are also flower-buds, but so very young as to render the determination of the number of ovules very uncertain; we could not, however, satisfy ourselves as to there being more than a single pair. We are very doubtful where this genus ought to be placed in the natural arrangement. In some points it approaches the *Tiliaceæ* and *Byttneriaceæ,* with which the habit perhaps best accords: in other respects there is a slight affinity with the group of *Rutaceæ.* We leave it at the end of the *Dicotyledones.*

ORD. LXXVIII. ORCHIDEÆ. *Juss.*

1. Arundina *Chinensis. Blum.—Lindl. gen. et Sp. Orch. p.* 125.—*Vachell, n.* 82.

1. Apaturia *Chinensis. Lindl. gen. et Sp. Orch. p.* 131.—*Vachell, n.* 81.

1. Spiranthes *Indica. Lindl. Coll. Bot. p.* 30. *t.* 30.—Aristotelia spiralis. *Lour.? Fl. Coch.* 2. *p.* 638.—*Vachell, n.* 80.

ORD. LXXIX. IRIDEÆ. *Juss.*

1. Pardanthus *Chinensis. Ker in Ann. Bot.* 1. *p.* 247.—Belamcanda Chinensis. *D. C. in Redout. Lit.* 3. *t.* 121.—Moræa Chinensis. *Thunb. Roxb. Fl. Ind.* 1. *p.* 170.—Ixia Chinensis. *Linn.—Curt. Bot. Mag. t.* 171.—Belamcanda Schularmani. *Rheed. Hort. Mal.* 11. *t.* 37. —*Vachell,* "*q.*"

Probably this, although it bears the name of *Chinensis,* is only known as a cultivated plant in China.

ORD. LXXX. SMILACEÆ. *R. Br.*

1. Smilax *China. Linn.—Lour. Fl. Coch.* 2. *p.* 763.

S. ovalifolia of Roxburgh, appears to be very closely allied to this species, but is said to have a compound umbel; if, however, as we think highly probable, his plant be a mere form of Rheede's *Kari Vilandi*, Hort. Mal. 7. t. 31., it would only be distinguishable by its larger size. We have seen a specimen in Dr. Wight's Herbarium exactly agreeing with Rheede's figure.

2. Smilax *pseudo-China. Linn.?*—S. Indica. *Burm. Fl. Ind. p.* 213.

Linnæus and most systematic authors mention this as a native of North America only: Loureiro and Roxburgh, however, introduce it into their respective Floras, and it seems to agree well with Burmann's *S. Indica*. We cannot perceive any difference between our Chinese and North American specimens.

3. Smilax *glabra;* caule teretiusculo inermi, foliis inermibus anguste lanceolatis acuminatis basi obtusiusculis utrinque glabris supra lucidis margine integerrimis, umbellis (fl. fem.) axillaribus sessilibus, pedicellis gracilibus petiolum æquantibus.—S. glabra. *Roxb. Fl. Ind.* 3. *p.* 702. ?—S. lanceolata. *Burm. Fl. Ind. p.* 213.—*Lour. Fl. Coch.* 2. *p.* 764.

Roxburgh describes his plant with leaves glaucous on the under side, and with the "calycine leaflets broad, obcordate, sessile." We have not seen the perianth; the leaves in our specimens are not at all glaucous underneath. Roxburgh mentions that the root of his plant is large and tuberous; Loureiro says it is filiform and not tuberous. Notwithstanding these differences in description, we are disposed to consider Loureiro's plant to be the same as that of Roxburgh. The true *S. lanceolata* is a North American species; Sprengel places it among those with a prickly and angled stem; all other authors describe it as unarmed, nor have we found any prickles.

1. Ophiopogon *spicatus. Ker. Bot. Reg. t.* 593.—*Sims, Bot. Mag. t.* 1063.—Convallaria spicata. *Thunb. Jap. p.* 141.—Liriope spicata. *Lour. Fl. Coch.* 1. *p.* 200.—Fluggea spicata. *Schult. Syst.* 7. *p.* 309.

ORD. LXXXI. ASPHODELEÆ. *R. Br.*

1. Dianella *odorata. Blume.—Schult. Syst.* 7. *p.* 350.—Dracæna ensifolia. *Lour. Fl. Coch.* 1. *p.* 243.

Some of our specimens present a nearly simple panicle as described by Blume and figured by Rumphius (5. t. 73.); but others have it as much branched as in *D. ensifolia:* this last form exactly coincides with what we have described as *D. Sandwichensis*, supr. p. 97, which may therefore be considered as not different from Blume's plant. Blume seems to consider it only as a cultivated plant in India, so that it is not improbable but it may have been originally introduced from the Sandwich Islands. The leaves are perfectly smooth to the touch along the margins, even when the latter are carefully unrolled, but in the true *D. ensifolia*, the serratures are often distant and extremely minute; so that, as the habit is precisely the same, there may be a question as to the propriety of keeping them up as distinct species.—We have it from Canton (*Mr. Millett*), and from Lappas Island (*Mr. Vachell, n.* 126.)

1. Barnardia *scilloides. Lindl. in Bot. Reg. t.* 1029.—*Schult. Syst.* 7. *p.* 555.—Ornithogalum Sinense. *Lour. Fl. Coch.* 1. *p.* 255.

HAB. Macao; *Mr. Millett.* Lappas Island; *Rev. G. H. Vachell, n.* 128.

ORD. LXXXII. PONTEDERIEÆ. *Rich. Kunth.*

1. Pontederia *ovata;* foliis ovatis acuminatis basi læviter cordatis multinerviis, racemo paucifloro laxo breviter pedunculato e medio petioli erumpente, fructifero erecto.

Hab. Canton; *Mr. Millett.*

This is very closely allied to *P. vaginalis* Roxb., but that species has the leaves only 5-7-nerved, and the racemes, after the flowers decay, become recurved. *P. ovata*, Linn. does not belong to this genus.

Ord. LXXXIII. RESTIACEÆ. *R. Br.*

1. Eriocaulon *Cantoniensis;* rhizomate annua? intra folia parce arachnoidea, scapis strictis glabris 8-12-pollicaribus quinquangularibus quam folia lineari-acuminata vix duplo et quam vaginæ pilis raris albidis patentibus adspersæ quadruplo longioribus, capitulis demum globosis basi planiusculis glabris, bracteis involucralibus plurimis testaceis rotundato-obovatis, interioribus cinereo-albis cuneato-rotundatis apice breviter acuminulatis nudis, perianthio masc. interiore monophyllo tubuloso apice cristato-fimbriato, perianthii fem. laciniis exterioribus duabus anticis navicularibus interioribus angustis integerrimis multo latioribus.

In the structure of the capitulum this is very much allied to *E. sexangulare*, Linn. (*Leucocephala spathacea.* Roxb. Fl. Ind. 3. p. 613), but the whole plant is much longer; the leaves are larger and broader, and the sheaths, and sometimes the leaves also, are sprinkled with a few spreading hairs. We almost suspect that this is *E. quadrangulare* of Loureiro (Fl. Coch. 1. p. 77.), but, at the same time, there are several points of difference. In our plant the scape, although always 5-angled, has one of the angles often so much smaller than the others as to appear like a mere nerve along one of the four principal sides; hence Loureiro might easily have supposed it to be only 4-angled. Loureiro's plant, however, seems to be smaller than ours, and may possibly be rather *E. quinquangulare,* Linn.—We have received it from the neighbourhood of Macao from Mr. Millett, and Mr. Vachell, "*j.*"

Ord. LXXXIV. PALMÆ. *Juss.*

1. Phœnix *dactylifera. Linn.—Roxb. Fl. Ind.* 3. *p.* 786.—*Vachell,* "*l.*"

Ord. LXXXV. COMMELINEÆ. *R. Br.*

1. Commelina *Benghalensis. Linn.—Lour. Fl. Coch.* 1. *p.* 49. *Roxb. Fl. Ind.* 1. *p.* 171.—C. nervosa. *Burm. Fl. Ind. p.* 7. *f.* 3.—C. cucullata. *Linn.*

The leaves are sometimes almost round, sometimes lanceolate, but always obtuse at the point.

2. Commelina *polygama. Roth.*—C. communis. *Roxb.* (*omniumque forsan de re Bot. Ind. Or. script.*)

Hab. Lappas Island; *Rev. G. H. Vachell, n.* 83.

3. Commelina *attenuata. Vahl. En.* 2. *p.* 168*?*

4. Commelina *salicifolia. Roxb.?*—C. tuberosa. *Burm. Fl. Ind. p.* 16. (var. *Linn.*)—C. paludosa. *Burm. Thes. Zeyl. t.* 20. *f.* 2; *Moon. Cat. Ceyl. Plants, p.* 5.

Hab. Lappas Island; *Rev. G. H. Vachell,* "*s.*"

1. Tradescantia *paniculata. Roxb.?*

Hab. Lappas Island; *Rev. G. H. Vachell, n.* 109.

Our plant has the inflorescence more elongated than Roxburgh attributes to his species, but all other points seem to agree; the filaments are quite glabrous. It differs from *T. thyrsiflora* of Blume by the sheaths being ciliated or almost bearded at the mouth and along the margins.

ORD. LXXXVI. ALISMACEÆ. *R. Br.*

1. Sagittaria *sagittifolia. Linn.?—Lour. Fl. Coch.* 2. *p.* 698.

We have not received the leaves: the inflorescence is quite the same with the Europæan plant.

ORD. LXXXVII. PANDANEÆ. *R. Br.*

1. Pandanus *odoratissimus. Linn. Fil.—Lour. Fl. Coch.* 2. *p.* 739.—*Roxb. Fl. Ind.* 3. *p.* 738.—***Vachell, n.*** **77.**

ORD. LXXXVIII. AROIDEÆ. *Juss.*

1. Arum ***Colocasia. Linn.?***

We have seen only one specimen of the spatha and spadix without any leaves.

1. Pothos *Loureiri;* parasitica radicans, petiolis planis folium simplex lanceolatum latitudine æquantibus longitudine excedentibus, florescentia subterminali, spatha lineari, spadice longo cylindraceo tenui erecto.—Flagellaria repens. *Lour. Fl. Coch.* 1. *p.* 263.

Very nearly allied to ***P. scandens,*** Linn.

ORD. LXXXIX. CYPERACEÆ. *Juss.*

[The *Cyperaceæ* and *Gramineæ* form the most numerous and valuable part of the collections received from Canton, and from the extreme vagueness with which the Chinese and East Indian species of both orders have been usually described, it is necessary that they should be noticed more in detail than the other families. For the following account of them we are indebted to our friend Prof. C. G. Nees von Esenbeck of Breslau: and when we have added any species not elucidated in his MS., or have made any additional observations of our own, we have inserted them within brackets. The mere specific characters of most of the *Cyperaceæ* have been already published in Wight's Contributions.]

TRIB. I. CYPEREÆ. *N. ab E.*

1. CYPERUS. *Linn.; N. ab E. in Wight's Contrib. Bot. Ind.*

1. C. *pollystachyus. Rottb.—N. ab E. l. c. p.* 75. (cum char. et syn.)—α; *Millett.*—β: ***Vachell, n.*** **70.** ***a.***

Var. β non differt, nisi gracilitate quadam, et radiis omnibus longiusculis.

2. C. *capillaris. Koen.—N. ab E. l. c. p.* 76. (cum char. et syn.)

Spiculæ ¼-¾ pollicis longæ, lineam latæ, valde compressæ; rhachillæ inter squamas scrobiculis oblongis insculptæ; carinula utrinque inter squamas undatim conspicua. *Squamæ* arcte imbricatæ, basi membranacea rhachillam amplectentes, chartaceæ, lateribus lævigatæ, luteæ, magisve aut minus brunnescentes, dorso angusto spatio viridi nervulo utrinque carinaque prominulis, oblongæ, apice obtusæ. *Stamina* duo. *Caryopses* fuscæ, foveis rhachillæ rectangulis elongatis semi-immersæ, obovatæ, minutim punctulatæ.

[One of the specimens before us, from Macao, contains more rays to the umbel than is noticed by Prof. Nees von Esenbeck: he limits it to having only from one to three rays; we find three or four principal rays from an inch and a half to two inches in length, and two or three others scarcely three quarters of an inch long; besides these there is a central almost sessile capitulum. In no other respect, however, does it differ from our friend's description above quoted. This is Mr. Vachell's n. 69.]

3. C. *compressus. Linn.—N. ab. E. l. c. p.* 76. (cum char. et syn.)

Hab. Canton; *Millett; Vachell, n.* 73. *b.* (ex parte.)

Species e spiculis argute compressis, viridulis, lineolis purpureis, ætate provectiori autem macula marginali flava notatis, squamis argute acutatis, radiis umbellæ 1-4 patulis magis minusve elongatis facile distinguenda. *Spiculæ* in apice radiorum 3-5, approximatæ, patentes, 4-8-lineas longæ, 1-1$\frac{1}{2}$ lineas latæ, radiatæ aut digitatæ, in centro umbellæ magis congestæ. *Caryopsis* distincte trigona. *Styli* rami tres gracillimi. *Stamina* tria.

4. C. *pectiniformis. R. et Sch.?—N. ab E. l. c. p.* 77. (cum char.)

Exempla nostra vix bipollicaria. *Culmi* cæspitosi basi squamis laxis folioque uno alteroque angusto carinato culmum vix æquante lævi instructi, trigoni, in nostro haud adeo rigidi. *Spiculæ* 10-12 pollicem longæ, lineam latæ, compressæ. *Squamæ* imbricatæ, carinatæ, ovatæ, in acumen mucroniforme non nihil recurvum productæ, nervis subundenis striatæ, dorso virides demum griseæ, margine pallidæ, interdum macula lanceolata flava notatæ; inferiores deciduæ. *Rhachilla* compressa, alternatim gradata. *Stamina* tria. *Stylus* ad $\frac{1}{3}$ a vertice trifidus. *Caryopsis* trigona, obovata, læviuscula, immatura alba, matura cinerascens. *Involucri* folia tria, foliis similia, quorum unum spiculas magis minusve excedit, reliqua easdem subæquant.

[Mr. Arnott has shown, in Wight's Contributions to the Botany of India, p. 77, that *C. pectinatus* of Roxburgh, which name Roemer and Schultes exchanged for *C. pectiniformis,* (there being a previous *C. pectinatus*), is not the same as the present species, but is *C. Wightii*, N. ab E. The plant here described has been therefore named *C. Meyenii* by Wight and Arnott (Wight Cat. n. 1815) in honour of Meyen, who first discovered it in the island of Manilla.]

5. C. *castaneus. Willd.—N. ab E. l. c. p.* 79. (cum char. et syn.)—*Vachell, n.* 296.

[The Chinese specimen which we have received from Prof. Henslow has the umbel simple, as described by Prof. Nees Von Esenbeck; but in those from the Peninsula it is more frequently compound, as noticed by Roxburgh: the mucro to the scales is often straight and patulous, but is usually slightly recurved; Roxburgh has described and figured this form.]

6. C. *Haspan. Rottb.—N. ab E. l. c. p.* 80. (cum char. var. et syn.)

Hab. *β*, circa Macao urbem; *G. H. Vachell,* "*g.*" (ex parte.)

Est species elegans, inflorescentia valde regulari distincta. *Culmus* $\frac{1}{2}$-1 pedem altus, acute triqueter, infra umbellam scaber, striatus, crassitie pennæ gallinaceæ. *Foliorum* loco in aliis vagina una et altera ad basin culmi membranacea, acuminata, striata, purpurea; in aliis vagina inferior transit in folium lineare carinatum obtusum margine scabrum, culmo brevius. *Folia* fasciculorum angustiora, complicata, culmum æquantia. *Involucrum* diphyllum, folio altero umbella $\frac{1}{4}$-$\frac{1}{2}$ breviori, altero $\frac{1}{2}$-$\frac{3}{4}$ breviori. *Ochreæ* communes margine apiceque membranaceæ, oblique truncatæ. Umbellæ *radii* 6-8 valde inæquales, 1-3 pollices longi, compressi, altero latere canaliculati, glabri, graciles, patuli. *Umbellulæ* 6-8-radiatæ, medio pro more sessili. *Involucella* duarum ochreolarum longitudine, lanceolata, scariosa. *Ochreola* singuli radioli laxa, oblique truncata. *Radioli* semipollicares. *Cymula* radioli bifida cum spicula media sessili, ramo laterali utroque divaricato-recurvo, vel distachyo, altera spicula terminante sessili, altera ad ejus basin pedicellata reflexa, vel altero saltem bifido tetrastachyo, scil. spicula media, unaque alterius lateris, alterius lateris radiolo duplici spicula instructo, quo figura cymulæ pedata oritur. *Spiculæ* 2$\frac{1}{2}$-3 lin. longæ, lineares, compressæ, glabræ. *Squamæ* carinatæ, imbricatæ, ovatæ, obtusæ, mucronulo parvo a reliquo margine sæpe sinulo discreto, carina viridi trinervi, lateribus litura oblonga purpurascenti-brunnea notatis, margine membranaceo pallido. *Stamina* 3. *Antheræ* lineares, fulvæ, apice albo-barbatæ. *Stylus* ad medium trifidus. *Caryopsis* parva, trigono-subrotunda, subtiliter punctulata, candida, mutica.

7. C. *hexastachyus. Rottb.—N. ab E. l. c. p.* 81. (cum char. et syn.)

Hab. Macao; *Millett; Vachell, n.* 71. *et "f."*

8. C. *marginellus. N. ab E. l. c. p.* 83. (cum char.)

Hab. Ad Macao et in vicinis insulis; *G. H. Vachell, n.* 68.

Radix fibrosa, fibris flexuosis spongiosis. *Stolones* flexuosi, squamati, horizontales. *Folia* radicalia vaginis membranaceis laxis instructa. *Culmi* ad basin vagina membranacea acumine lanceolato aphylla rufa, tum fôlium alterum, vagina longa triquetra, e rhizomate oriente, lamina 2-2½ lin. lata, complicato-carinata glabra margine scabra, acuminata, culmum subæquante. *Culmus* acute trigonus penna gallinacea crassior. *Involucri* folia tria, tres fere lineas longa, plana, margine scabra, umbella longiora; quartum angustius umbellam æquans. *Radii* umbellæ 3-4, 1-2½ pollices longi, compressi, scabri. *Spica*, ob spicas laterales sessiles subcapitatas, pollicem lata, pollice brevior, e partialibus 3-4 patentissimis terminalique congestis exstructa; involluella sub spicis et spiculis brevia, setacea. *Spiculæ* confertæ, patentes, quatuor lineas longæ, lineam vix latæ, compressiusculæ. *Squamæ* imbricatæ, primum acutæ, demum obtusæ, septemnerves, e purpureo expallidæ, dorso viridulæ, margine albo-tenuissimo. *Stamina* tria.

9. C. *canescens. Vahl.—N. ab E. l. c. p.* 84. (cum char. et syn.)

Hab. Macao; *Millett.* In littore Tynon-Bay; *G. H. Vachell, n.* 67.

Culmus pedalis, sesquipedalis, penna anserina tenuior, strictus, trigonus, lævis, sub umbella rufescens. *Folia* radicalia, culmum æquantia, linearia, rigidula, 2-2½ lineas lata, glauca, glabra, margine serrulato-scabra. *Vaginæ* membranaceæ, fusco-purpureæ. *Involucri* foliola 6-7, foliolorum forma, pleraque et eorum longitudine, interiora minora; inferius quandoque ab umbella remotius. *Ochreæ* laxæ, oblique truncatæ eoque acuminatæ, nec dentatæ aut foliaceo-appendiculatæ. *Radii* 6-8, in aliis plerique abbreviati, et ideo umbella subcontracta, in aliis 1-2 pollices longi, divaricati, trigoni, centralibus solis abbreviatis. *Involucella* nulla. In singulo radio inflorescentia composito-vel decomposito-spicata, late pyramidalis, spicis partialibus paucis divaricatis earumque infimis longioribus fere pollicaribus, basi sæpe compositis, tunc una et altera superiora versus multo brevior, ipso apice simpliciter spicato, unde figura inflorescentiæ brevem pyramidem refert. *Spiculæ* approximatæ nec imbricatæ, recto angulo patentes, subdistichæ, sessiles, 3 lin. longæ, ¾ lin. latæ, ex oblongo lanceolatæ, acutiusculæ, modice compressæ, utrinque convexæ, 8-9-floræ, squamis arcte imbricatis ovatis obtuse mucronatis crassiuscule chartaceis griseo-fuscis margine angusto pallidiore, nervis novem prominulis obtusis divisis punctulatisque. *Rhachilla* utrinque ad latus alata. *Stamina* tria. *Stylus* ad medium bifidus, altero ramo bifido. *Caryopsis* obovato-triquetra, lateribus depressis, mucronata, basi contracta, punctulis minimis prominulis subseriatis exasperata, nigro-fusca, nitidula, squama sua duplo brevior.

[From the above description, assisted by specimens from Dr. Wight, and determined by Professor Nees Von Esenbeck, we are now inclined to refer here our *C. caricifolius*, from the Sandwich Islands, supr. p. 99.]

10. [C. *verticillatus;* umbella composita decompositave pluriradiata, radiis compresso-triquetris strictis apice umbellatis e spicis 3-8 sessilibus paullo inæqualibus patulis cylindraceis a basi densissime imbricatis et quandoque radiolo centrali oligostachyo, spiculis lanceolatis valde compressis dense spiraliter in rachi insertis ebracteolatis 6-14-floris, squamis ovatis obtusis mucronatis flavidis dorso trinervibus nervo carinali viridi, stylo trifido, caryopsi ovali triquetra lævi pallida, involucellis subdiphyllis umbellula paullo brevioribus, in-

volucro 4-6-phyllo, foliolis 2-4 umbella multo longioribus carinatis foliisque margine antrorsum spiculoso-scabris, culmo trigono lævi.—C. verticillatus. *Roxb. Fl. Ind.* 1. *p.* 206; (*ed Wall.*) 1. *p.* 209; *in Cat. Merc. Ind. or. Mus. tab.* 1319. (haud *N. ab. E. in Wight's Contrib. p.* 87.)—C. digitatus. *N. ab E. l. c. p.* 85? (non *Roxb.*)

Hab. Danes Island, 1828; *G. H. Vachell, n.* 73. *c.*

Spicæ $\frac{3}{4}$-$1\frac{1}{4}$ unciam longæ, pennæ anserinæ minoris crassitie. *Spiculæ* lineam longæ. Squamarum *nervus* carinalis viridis basin versus tenuis sursum validior et latior, denique in mucronem etiamque viridem rectum vel patulum validum procurrens. *Squamæ* duæ inferiores minores et steriles.

We have given the above character, in order that it may be compared with that of *C. digitatus*, traced by Nees Von Esenbeck, l. c. (where the leaves and involucres are said, by a typographical error, to be " margine rubris," instead of " margine scabris,"): and the two will be found scarcely to differ. Nees Von Esenbeck, in his MS. remarks of this plant, " distinguitur inter confines spicis in radiis umbellulæ 1-2-pollicaribus quinis senis septenisve, $\frac{3}{4}$-1 pollicem longis, 3-4 subæqualibus majoribus, reliquis minoribus, crassitie pennæ anserinæ, a basi, ubi quandoque nonnihil curvantur, densissime imbricatis, manum cum digitis suis bene referentibus:" the first part of which agrees with our one, but the latter is not so evident either in the specimen before us, transmitted for our inspection by Professor Henslow of Cambridge, or in Roxburgh's description and figure, with which the Chinese plant agrees exactly.]

11. [C. *parviflorus. Vahl.—N. ab E. l. c. p.* 87. (cum char. et syn.)

Hab. Macao; *Millett; Vachell, n.* 62. *b.* (ex parte.)

Var. *α.* ought to have been defined, " umbella explicata."]

12. C. *Iria. Linn.—N. ab E. l. c. p.* 87. (cum char. et syn.)

Hab. Macao; *Millett; Vachell, n.* 62. *b.* (ex parte.)

13. C. *difformis. Linn.—N. ab E. l. c. p.* 88. (cum char. et syn.)

14. C. *distans. Linn.—N. ab E. l. c. p.* 88. (cum char. et syn.)

Hab. Circa Macao urbem; *G. H. Vachell, " g."* (ex parte.)

Vera *Iriarum* socia, spiculis angustis, squamisque alternatim dispositis, dorso viridibus, læviter quinquenervibus obtusissimis cum vel sine mucronulo, margine albido membranaceis caryopsin æquantibus bene distincta. *Stamina* 3. *Involucella* 3-4-phylla, lineari-setacea, umbellam æquantia.

2. MARISCUS. *Link. N. ab E. l. c.*

1. M. *cyperinus. Vahl.—N. ab E. l. c. p.* 90. (cum char. et syn.)—*Vachell, n.* 73. *a.*

Spiculæ vix linea aut sesquialtera longiores, lineari-subulatæ, e 4 vel 5 squamis exstructæ, quarum inferior patula, lanceolato-subulata, spicula triplo brevior, secunda ovata, obtusa, hac autem sterilis; tum tertia exteriorque major ovato-lanceolata primo in subulam convoluta, dein obtuse carinata, margine alba, dorso viridis, trinervis, amplectens in spicula uniflora alterum flosculum minorem angustioremque et sterilem, in bifloris quarta sequitur squama, tertiæ conformis eademque fertilis, $\frac{1}{4}$-$\frac{1}{3}$ longior. *Stamina* tria, valvula longiora. *Stylus* ad medium trifidus. *Caryopsis* oblonga, obtuse trigona, lævis. Structura spiculæ in unifloris omnino *Kyllingiæ*, nullæque adsunt rhacheos alæ valvulares hæ autem in bifloris adsunt distinctissimæ, apice liberæ. Tum vero inflorescentia, valvulæ convolutæ nec carinatæ, stigmata tria et caryopsis trigona *Mariscorum*. *Folia* culmo plerumque breviora sunt, uti et in icone Rheediana. (Hort. Mal. 12. t. 63.) *Involucrum* 3-6-phyllum, foliolis plerisque umbellam excedentibus. *Spiculæ* adultæ et fructiferæ patentes et subreflexæ. Color foliorum glaucus.

3. KYLLINGIA. *Linn.; N. ab E. l. c.*

1. K. *monocephala. Linn.—N. ab E. l. c. p.* 91. (cum char. et syn.)

Hab. Macao; *Millett*; *Vachell, n.* 72. *b.*

2. K. *nana;* (*N. ab E.*) capitulo solitario sessili, involucro triphyllo capitulo 5-6-plo longiore, spiculis monandris, squamis ovato-acutis novemnervibus carina glabris, foliis planis angustis mollibus culmum humilem trigonum æquantibus.

Hab. Circa Macao et in insulis vicinis; *G. H. Vachell, n.* 72. *a.*

Similis *K. brevifoliæ*, et fors ejus varietas; differt autem culmo vix 3-4-pollicari folia æquante et spiculæ squamis carina lævibus multinerviis. Distinctam igitur proponere, quam conjungere, malui.

Trib. II. Hypolytreæ. *N. ab E.*

4. FUIRENA. *Linn.; N. ab E. l. c.*

* *Perigynii foliola interiora unguiculata.*

1. F. *Rottboellii. N. ab E. l. c.* (cum char. et syn.)

Differt a *F. pentagona*, præter notas l. c. indicatis: culmo plerumque humiliore spithameo rarissimeve pedali flaccido, foliis infimis semipollicem longis latiusculis, omnibus, ut et vaginis, magis minusve hirsutis, capitulo terminali e pluribus quidem capitulis composito, sed iis magis contiguis bracteolis aliquot foliaceis interstinctis nec geminis altero elevatiori; perigynio denique dimidio minore (etiam in fructu maturo) firmiori, lamina unguem æquante crasse trinervi basi emarginata apice utrinque læviter repanda qua mucronulus medius inflexus producitur. Ad basin inter nervos laterales et medium macula oblonga pellucida quasi fenestra conspicitur, accedente quandoque, ubi lamina quinquenervis, magis extrorsum et altera minori, quæ cuncta Rottboellii icon eximie monstrat.

Trib. III. Scripeæ. *N. ab E.*

5. ABILDGAARDIA. *Vahl.; N. ab E. l. c.*

1. A. *Eragrostis. Nees et Meyer, in Act. Acad. Nat. Cur.* 16. *Suppl.* 2.—*N. ab E. in Wight's Contrib. p.* 95.

Abildgaardiæ genus inter Cypereas poni potest.

6. FIMBRISTYLIS. *Vahl. N. ab E. l. c.*

1. F. *bispicata. Nees et Meyer.—N. ab E. l. c. p.* 97. (cum char.)—*α. N. ab E. l. c.*

Hab. *α.* ad Macao urbem et in insulis vicinis; *Vachell, n.* "*c.*"

Radix repens. *Culmi* fasciculati, pedales et bipedales, graciles, filiformes, compressi, hinc canaliculati, striati, nec scabri, glaucescentes, torti. Ad basin *vaginæ* 1-2 truncatæ, membranaceæ *foliis* filiformibus, culmo brevioribus eidemque similibus, basi tereti-compressis sulculoque insculptis, extremo apice planis linearibus obtusiusculis instructæ. *Involucrum* monophyllum, plano-convexum, incurvum, 3-4-pollices longum, culmi apicem simulans, quare *spicula* ad speciem lateralis; hæc sessilis est, involucello monophyllo filiformi spicula breviori, quandoque obsoleto, suffulta, $\frac{1}{2}$-$\frac{3}{4}$ poll. longa, ovali-oblonga, erecta, lævis, basi brevi spatio sterilis; accedit una, rariusve exaltera, pedicellata, pedicello involucrum modo æquante, modo eo breviore, compresso. *Squamæ* arcte imbricatæ, membranaceæ, subrotundæ, latæ, rotundatæ, brevimucronatæ, pallide ferrugineæ, læves, nervo dorsali in mucronulum abeunte et aliquot eidem adjectis obsoletis preditæ, glabræ; squamæ inferiores aliquot minores et steriles. *Stamina* tria, filamentis compressis. *Perianthium* subcylindricum, sulcatum, truncatum, ovario angustius, in caryopseos stipitem longum abiens. *Stylus* compressus, utrinque ciliatus, bifidus, basi bulbulosus et solubilis. *Caryopsis* obovato-lenticularis, stipitata, filamentisque ad basin stipitis persistentibus cincta, obtusa, subtilissime punctulata, albida, margine discreto obtuso cincta.

[Mr. Arnott, in Wight's Contributions, p. 97, has pointed out that the var. β of Prof. Nees v. Esenbeck, so far at least as relates to the synonym of *Scirpus tristachyus*, Roxb., is identical with Dr. Wight's specimens of *F. schœnoides*, Vahl, as determined by Nees v. Esenbeck himself.]

2. F. *podocarpa. Nees et Meyen.—N. ab E. l. c. p.* 98.

Species est distinctissima; quod ad spiculas quidem *F. diphyllæ* haud absimilis, sed statura humiliori, semipedali culmo, foliis brevioribus subfalcatis ciliatis, plerumque vaginis margine late membranaceis oblique truncatis, umbellaque vix pollicari, bi-tri-quinqueradiata, radiis $\frac{1}{4}$-$\frac{1}{2}$ pollicem longis, longioribus tri-penta-brevioribus mono-di-stachyis, spiculis lateralibus pedicellatis media sessili, in centro spiculis aliquot brevi-pedicellatis congestis, præsertim autem caryopsi magis compressa, margine obtuso sulculo discreto cincta utrinque parum convexa costulisque tuberculato-crenulatis prædita, quarum interstitia angusta lineam punctorum insculptorum monstrant. *Squamæ*, in nostris, glabræ, subrotundæ, obtusæ, ferrugineæ, costa media viridi in inferioribus brevem mucronulum formante et striis aliquot nervosis lateralibus præditæ. *Stamina* duo-tria, infra urceolum stipitiformem inserta. *Stylus* latus, compressus, ciliatus, apice bifidus. *Urceolus* discretus distincte stipitatus rufulus aut pallidus caryopsin attollit.

3. F. *tomentosa. Vahl.—N. ab E. l. c. p.* 100. (cum char. et syn.)

Umbellæ partiales 4-8-radiatæ, radiolis vel omnibus monostachyis, vel uno alterove longiori distachyo. *Involucella* di-triphylla, foliolis setaceis umbellula duplo et triplo brevioribus. *Squamæ* spicularum chartaceæ, ovatæ, brevi-mucronatæ, costa viridi, basi albæ, superius fuscæ, plerumque glabræ. *Caryopsis* obovata, albida, exteriori latere gibbosa, costis novem, interiori planiusculo costis undecim, interstitiis transversim sulcatis. *Culmus* sulcato-angulatus, glaber. *Folia* culmum æquantia vel paulo breviora, linea vix latiora, flava, obtusiuscula, utrinque cum vaginis striata et pilosa. *Vaginarum tubus* truncatus, altero latere ferrugineus, punctulatus.

4. F. *diphylla. Vahl.—N. ab E. l. c. p.* 100. (cum char. et adnot.)

5. F. *decora. Nees et Meyen.—N. ab E. l. c. p.* 101. (cum char.)

Rhizoma validum, repens, fibris ramosis sparsis radicans, foliorum culmorumque fasciculos in cæspitem collectos gignens. *Culmi* 4-8 pollices longi, rigiduli, sulcato-angulati, setulis exiguis adpressis inspersi, basi dense foliosi. *Folia* flabellatim disticha e vaginis imbricatis membranaceis ferrugineis subpuberulis fastigiata, 1-1$\frac{1}{2}$ pollicem longa, linea angustiora, attenuata et acutiuscula, apice plerumque sphacelato, planiuscula, recurva, glauca, supra dense argenteo-sericea subtus sparsim puberula; quæ in culmo paullulum adscendunt, ad $\frac{3}{4}$-$\frac{1}{2}$ pollicem decrescunt folia, maxima pars culmi aphylla. *Involucri* folia 2-3, vix 3-4 lineis longiora, basi membranaceo-dilatata, glauca, sericea. *Umbellæ* radii 3-6, $\frac{1}{4}$-1-pollicem longi, compressi, glauci, cum capitulo centrali sessili. *Spiculæ* 2-4, sessiles, 2-2$\frac{1}{2}$ lineas longæ, ovato-oblongæ, teretes, dense imbricatæ. Accedit quandoque in radiis longioribus radiolus brevissimus, distachyus. *Squamæ* ovatæ, pubescentes, margine late membranaceæ albæ, pulchre ciliatæ, carina dorsali viridi in mucronem excurrente, latere utroque nervis ternis subtilibus. *Stamina* tria, squama paullo longiora. *Stylus* ad $\frac{1}{3}$ bifidus, non compressus, nec ciliatus, basi bulbosus, latitudine germinis ovalis. *Caryopsis* obovata, obtusa cum umbone exiguo, fere lævis, pallide fusca, extrorsum convexa cum vestigiis sulcorum quatuor obsoletis, latere interiori planiusculo obtuse carinato. Ad basin caryopseos filamenta ad maturitatemusque persistunt.

[We have received this beautiful species only from Mr. Millett: the leaves are about two or two and a half inches long, but in every other respect the above description is most faithful. We presume it is *F. argentea*, N. ab E. in Herb. Lindl.; but we have not seen his specimens.]

7. TRICLELOSTYLIS. *Lest.; N. ab E. l. c.*

1. T. *complanata. N. ab E. l. c. p.* 103. (cum char. et syn.)

HAB. Circa Macao urbem et in insulis vicinis; *G. H. Vachell, n.* 61. *et* "*e.*"

2. T. *miliacea. N. ab E. l. c. p.* 103. (cum char. et syn.)

Culmi pars inferior acute quadrangularis, mox autem superior pars ejus comprimitur carina depressa in utroque latere notata. *Folia* e vagina ampla angusta, compressa, acuminata, basi anguste canaliculata, culmum æquantia. *Umbellæ* supradecompositæ habitus verticillaris ab auctoribus optime expositus est. *Spiculæ* vix linea 1-1¼ longiores, subglobosæ, multifloræ. *Squamæ* octofariam imbricatæ, ovatæ, inferiores mucronatæ, superiores sæpe obtusæ, omnes carinatæ, uninerves, nervo utrinque vitta fusca limitato, margine albido membranaceo. *Caryopsis* exigua, alba, obtusa, latere exteriori convexo-gibba, costulaque media prædita, subtilissime transversim striolata, apiculis parvis cylindricis, imprimis versus superiora, echinata. *Orbiculus* hypogynus, parvus, discoideus.

8. ISOLEPIS. *R. Br.; N. ab E. l. c.*

1. I. *squarrosa. Vahl.—N. ab E. l. c. p.* 106. (cum char. et syn.)

2. I. *barbata. R. Br.—N. ab E. l. c. p.* 109. (cum char. et syn.)

HAB. Circa urbem Macao, et in insulis vicinis. *Vachell,* "*d.*" *Millett.*

Radix fibrosa, densa, longa, fibris multis flexuosis fuscis. *Culmi* quam plurimi ex eadem radice, digitales, spithamei, filiformes, subtrigoni, striati, incurvi, basi foliosi, superne longo tractu aphylli. *Vaginæ* ad basin culmorum paucæ, arctæ, purpureæ, nervoso-striatæ, ore longe barbatæ, cæterum glabræ; infimæ aphyllæ laxiusculæ, supremæ, una vel duæ, *folio* ½-1 pollicem longo filiformi subtrigono striato obtusiusculo terminatæ. *Capitulum* terminale, densum, e spiculis 6-12 compositum, subglobosum. *Involucrum* subdiphyllum, foliolis ovato-lanceolatis capitulo brevioribus vel ejusdem ad summum altitudinis, basi membranaceis purpurascenti-fuscis albo-ciliatis, acumine setaceo subherbaceo: alterius folioli longiori. *Spiculæ* parvæ, 1-1½ lineam longæ, dense confertæ, ovatæ vel ovato-lanceolatæ, acutiusculæ, compresso-trigonæ. *Rachis* flexuosa, ad genicula truncato-quadrata, triquetra, glabra. *Squamæ* trifariam imbricatæ, ovatæ, alte nec acute carinatæ, apice subtruncatæ et hinc extrorsum mucronulum patulum exserentes, membranaceæ, scabræ, purpureæ, margine angusto albo cinctæ, dorso trinerves, necque hac in parte discolores. *Stamina* plerumque duo, rarius tria, filamentis glabris. *Urceolus* ovarium cingens nullus. *Stylus* filiformis, glaber, a basi tuberculiformi cadens; *stigmata* tria, stylo breviora, hirta. *Caryopsis* exigua, obovata, æquilatero-trigona, læviuscula, obsoletissime punctulata, pallide lutea, tuberculo verticis fusco, e styli basi residuo coronata, nuda, neque urceolo inferne cincta, stipiti brevissimo papilliformi.—Hæc species Indica a Browniana illa differt involucri brevi, nec capitulum excedente.

TRIB. IV. RHYNCHOSPOREÆ. *N. ab E.*

9. RHYNCHOSPORA. *Vahl.; N. ab E. l. c.*

1. R. *Chinensis. Nees et Meyen.—N. ab E. l. c. p.* 115. (cum char. et syn.)

HAB. Circa urbem Macao et in insulis adjacentibus; *Vachell, n.* 60.

Planta 2-3-pedalis, pro statura gracilior. *Culmi* ad foliorum origines articulati, fistulosi, triquetri. *Folia* 4-5, culmo breviora, æquidistantia, decrescentia, linearia, acuminata, carinato-canaliculata, margine et carina scabra, vaginis longis trigonis striatis, herbaceis, ore hinc brevi spatio membranaceo. *Corymbi* e foliorum duorum superiorum axillis, folio multo breviores, fasciculato-bifidi, bracteolis setaceis scariosis interstincti. *Pedunculus* gracilis, compressus, scaber. *Spiculæ* in ramulis geminatæ, subglomeratim approximatæ, 7-8 in quovis fasciculo corymbuli bifidi, oblongæ, 4-5-floræ. *Squamæ* latæ, ovatæ, acutæ, uninerves, nervo excurrente mucronatæ, brunneæ, margine pallidiores; infimæ duæ steriles, minores, obtusiusculæ cum mucrone. *Stamina* tria. *Stylus* bifidus. *Caryopsis* seminis Viciæ fere magnitudine, obovata, lenticulari-compressa, marginibus acutis, utrinque interrupte undato-scrobiculata, fusca, styli basi conica compressa obtusiuscula, utrinque obiter bisulca, grisea, discreta. *Setæ* 8-9, caryopsin cum rostello æquantes, retrorsum hispidæ.

10. HAPLOSTYLIS.* *N. ab E. l. c.*

1. H. *Meyenii. N. ab E. in Ed. N. Phil. Journ.* (1834) *n.* 34. *p.* 265; *et in Wight's Contrib. p.* 115. (cum char.)

Hab. Insula Lappas; *Millett.* In vicinia urbis Macao, et in insulis adjacentibus; *G. H. Vachell, n.* 65. Ad Promontorium Syng-moon; *Meyen.*

Planta cæspitosa. *Radicis* fibræ densæ, pallidæ, compressæ, spongiosæ. *Culmorum bases* incrassatæ, vaginis exaridis elongatis pallidis laxe vestitæ. *Culmi* 1½-2 pedes alti, crassitie pennæ Columbinæ, teretiusculi, altero latere paullo magis depresso, altero inæqualiter costulato, striati, in sicco nonnihil torti, non scabri, basi sola foliosi. *Vaginæ* ratione laminæ breves, striatæ, compressæ, læves, altero latere membranaceæ lacero-dehiscentes, in laminam continuæ. *Folia* culmo aliquanto breviora, 1¼ lin. lata linearia, acuminata, carinata et basin versus complicata, glabra, lævia, margine scabra, flaccida, glauca. *Capitulum* terminale, magnitudine nucis moschatæ, subglobosum, densum. *Involucrum* 4-6-phyllum, foliolis a basi 1½ lineam lata planiuscula ciliata, in acumen carinatum continue attenuatis, totis herbaceis et rigidis patulis, inferne ciliatis apicem versus serrulato-scabris, quorum majus vix bipollicare, reliqua ad 1-¼ pollices decrescunt minoraque capituli ambitum intrant. *Spiculæ* per fasciculos 3-4-stachyos sessiles distributæ, confertæ, omnino sessiles, primum pallide virescentes, demum ferrugineæ, glabræ, lanceolatæ, compresso-ancipites, acuminatæ, incurvæ, primum arcte imbricatæ, sub fructu apice dehiscentes. *Squamæ* omnino distichæ, ovatæ, chartaceæ, uninerves, carinatæ, septenæ; quatuor inferiores steriles, breves, magnitudine tamen crescente, acutæ; quinta præcedente majore 1¼-1, sub fructu 2 lin. longa, longius acutata; sexta ejusdem formæ sed paullo longior et angustior magisque acuminata, teneriorque convoluta, amplectens margine baseos pistillum apiceque stylum arcte retinens, per se quidem sessilis, sed sinu recondens squamam septimam minorem teneriorem, oblongam, acutam, convolutam, stamina continentem. *Pistillum* unum in axilla squamæ quintæ. *Stylus* longissimus, squamam sextam excedens, filiformis, glaber, simplicissimus, apice semel bisve contortus acutiusculus, basi strictura insertus vertici ovarii spongioloso capituliformi; ovarium oblongum, trigonum, perigynio sexseto cinctum. *Caryopsis* obovata, seminis papaveris magnitudine, utrinque convexa, subtilissime punctulato-exasperata, margine angusto calloso pallidiore a vertice in basin angustatam continuo cincto, apice orbiculo convexo carinato ruguloso coronata, basi perianthii setulis 4-6 triplo brevioribus retrorsum hispidis fundo conjunctis stipitata, primum lutea, dein fusca. *Perigynii* exterioris lacinulæ albæ, filiformes, caryopsi multo breviores, denique obsoletæ. Flos masc. *stamina* tria, squama septima circumdata; filamenta linearia, brunnea, squamam sub anthesi æquantia; *antheræ* lineares, apiculatæ, bilocellatæ, luteæ, basi veluti in stipitem sterilem filiformem attenuatæ ejusque opera filamento strictura argute intercedente impositæ, ita ut primo attractu defluant.

Ad sectionem hujus generis secundam, *Pterorrhynchium*, N. ab E., caryopsi concavo-convexa rostro continuo compresso obtuso coronata et margine angusto ab eo decurrente ad basin usque cincta insignitam pertinet *H. Bahiensis*, N. ab E., seu *Schænus monocephalus*, Salzm., et *Rhynchospora pterocarpa*, Presl. (ex parte.)

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* Generis affinis *Morisiæ*, N. ab E. l. c., et in Ed. N. Philos. Journ. (1834) n. 34. p. 265, nomen mutandum, monente in literis amiciss. Arnottii, propter dua alia jamjam similiter appellata, at mihi, cum scriberem de *Cyperaceis Wightianis*, haud cognita: substituatur *Sphæroschænus*, Herb. Arn.

Trib. V. Cladieæ. *N. ab E.*

11. CLADIUM. *Schrad.*

1. C. *Chinense* (*N. ab E.*); culmo inferne tereti inter paniculæ ramos profunde canaliculato scabro, foliis linearibus longissimis caudato-acuminatis margine et carina serrulato-aculeatis, paniculæ ramis axillaribus supradecompositis corymbosis, spiculis capitatis primum oblongis demum subglobosis, capitulis oligostachyis squamis infimis ovato-subrotundis mucronatis mediis subrotundis, superioribusque ovatis obtusis, stylo trifido.

Hab. In China, circa Macao et in insulis adjacentibus; *G. H. Vachell, n.* 59. *Millett.*

Media quasi species est inter *C. Germanicum* et *leptostachyum*, Nees et Meyen; differt ab utroque rachi inter corymbos partiales profunde canaliculata marginibusque scaberrima, quæ in *C. Germanico* oblique complanata, in *C. leptostachyo* autem leniter depresso-excavata, fere semiteres; tum vero gracilitati culmi et foliorum maxime attenuatorum longitudine et forma. A *C. Germanico* insuper recedit spiculis plerumque paucioribus in capitulo (3-10) obscurioribus, stigmatibusque constanter tribus, scil. altero styli ramo bifido, altero integro: a *C. leptostachyo* spiculis pluribus in capitulo, corymbis laxioribus nec supradecomposite multifloris, et stigmatum etiam numero.—*Nux* ovata, grisea, acuta, basi orbiculo depresso instructæ, sulcis aliquot verticalibus (2-3) insculpta. *Endocarpium* (an testa?) crassum, fuscum, intus nitidulum, mucronulatum.

12. GAHNIA. *Forst.*

1. G. *tristis* (*N. ab E.*) panicula spicata supradecomposita, spiculis glomeratis, squamis exterioribus elongatis acuminatis, tribus interioribus brevioribus obtusis, nucula trigona nitida alba, papilla sphacelata.—Didymonema filifolium. *Presl. Diss. de Didymonemate?*

Hab. In vicinia Macao urbis et in insulis adjacentibus; *Millett. G. H. Vachell, n.* 59.

Summitas sola adest, *paniculam* sistens foliis linearibus acuminatis margine scaberrimis culmum superantibus bracteatam, contractam, lanceolatam, 4-6 pollices longam, e spicis partialibus lobato-compositis fuscis exstructam. *Bracteæ* propriæ spiculis breviores, membranaceæ, apice tridentatæ. *Spiculæ* trifariam imbricatæ, *squamis* sex exterioribus lanceolatis acuminatis, quinta et sexta majoribus subulatis, septima octava nonaque brevioribus ovatis, quarum prior acutiuscula, reliquæ obtusæ caryopsin amplectentes æquantesque. *Stamina* sex, per paria approximata caryopsi triplo longiora, crispata. *Hypogynium* nullum. *Stylus* filiformis, bifidus, altero ramo simplici, altero bifido, hinc trifidus. *Caryopsis* nucamentacea, ovalis, obtuse trigona, minutim punctulata, alba, papilla nigra coronata, filamentisque persistentibus basi cincta. *Putamen* crassum. *Testa* seminis (in nostris inanis) transversim striata, e fibra crassa, in spiram convoluta, constans.

13. LEPIDOSPERMA. *La Bill.*

1. L. *Chinense;* spica composita et decomposita oblonga disticha, spiculis imbricatis, culmo teretiusculo sursum uniangulato striato basi folioso, foliis subtrigonis apice sphacelatis corneis, bracteis ovalibus lineari-mucronatis pruinosis.—L. Chinense. *Nees et Meyen, in Mey. It. Part. Bot. Ined.*

Hab. China, ad Promontorium Syng-moon, (Julio, floribus nondum explicatis); *Meyen.* In vicinia Macao urbis insulisque adjacentibus, (Aprili), et in insula Lappas, (Octob. spiculis juvenilibus); *G. H. Vachell, n.*

39. *a, b.* *Culmi* rigidi, 1½-2 pedes alti, pennæ gallinaceæ vel scriptoriæ tenuioris crassitie, subtorti, inferne tereti-compressi, superiora versus vel semiteretes vel inæqualiter ex subtereti-uniangulati, striati, læves, glauci. *Folia fasciculorum* (scil. folia radicalia in fasciculos solito more collecta) gemina, vagina aphylla amplexa, culmo breviora, stricta, e semitereti compressa, apicem versus potius trigona, apice rigido fusco, margine lævia. *Vaginæ* striatæ, spice obtuse carinatæ margine fusco-membranaceo in ligulam folio adnatam concurrente. *Culmea* duo, fasciculorum foliis similia, paullo crassiora, basi compresso-semiteretia, apice tereti-trigona; *vaginæ* ut in illis. *Spica* 2-6-pollicaris, decomposita, e spicis partialibus 6-10 approximatis, alternis, tri-unipollicaribus, summis semipollicaribus. *Rachis* depresso-semi-teres, lævis, altero latere canaliculato. *Bractea* sub singula spica partiali ovalis, scariosa, fusca, basi vaginans, apice contracto in mucronem rectum linearem planum obtusum procurrens, spica partiali brevior, nervoso--striata pruinosa. *Spicæ* partiales 6-5, alternæ, approximatæ, ovatæ, 1-1¼ poll. longæ, bracteatæ. *Spiculæ* in ramulo suo subimbricatæ, geminæ vel solitariæ, bracteola communi simili aristulata longitudine spicularum stipatæ, lanceolatæ, 1½-2 lin. longæ, compressæ, squamis 5-6 æqualibus trifariam imbricatis chartaceo-cartilagineis, oblongis, acutis, infra apicem mucronulatis, carinatis, subenerviis, basi tenuioribus pallide rufis, apice crassioribus fuscis scabriusculis rigidioribus, omnibus præter penultimam, quæ mascula, et terminalem quæ minor teneriorque et pallidior, sterilibus exstructæ. *Stamina* tria, antheris linearibus mucronulatis. *Urceoli* denticulati vestigia ovarium fulcientia. *Stylus* ad medium usque trifidus; ovarium oblongum, trigonum, in styli basin crassiusculam connivens. *Spica* fructifera major, subnutans. *Caryopsis* nucamentacea, ovalis, subtrigona, mucronulata, fusca, albo-irrorata, lævis, basi perigynio brevi obconico cartilagineo acute sexdentato albo suffulta.

[Our specimen, also collected by the Rev. Mr. Vachell, and under the same number from Professor Henslow, does not quite agree with the above description ; we, therefore, insert also the specific character we had drawn up previously to receiving that by Prof. Nees von Esenbeck :—Culmo (apicem versus saltem) aphyllo glaberrimo lævi tereti-compresso apice uniangulato, rachi leniter flexuosa, spiculis oblongis in spicis densis dispositis, spicis erectis inferioribus compositis ovato-oblongis breviter pedunculatis mediis subsessilibus, ovatis superioribus simplicibus confertim glomeratis, bracteis pruniosis omnibus spica propria multo brevioribus, squamis oblongo-lanceolatis, exterioribus obtusiusculis sterilibus, interioribus carinatis acuminatis.—Thus the principal difference consists in the lower partial spikelets of our plant being peduncled, and forming a kind of panicle.]

TRIB. VI. SCLERIEÆ. *N. ab E.*

14. SCLERIA. *Berg.; N. ab E. l. c.*

1. S. *ciliaris. N. ab E. l. c. p.* 117. (cum char.)

HAB. In vicina Macao urbis ; *Millett; Vachell, n.* 40.

Culmus 1-2-pedalis altus, basi bulbosus, et purpureus. *Folia* inferiora culmum æquantia, 2 lineas lata, floralia 4-3 pollices longa, 2½ lineas lata, omnia apice attenuata, apice ipso obtuso. *Paniculæ* axillares, 1-3, saturate purpureæ, 1½-2 poll. longæ, basi ramosæ, apice ramisque simpliciter spicatis. *Bracteæ* subulatæ, basi dilatata purpurea, pilis rigidis ciliata. *Spiculæ* geminæ, confertæ.

[To the description and character given by Prof. Nees Von Esenbeck, we may add that the *caryopsis* is at first only slightly rugulose, the elevated parts being covered with numerous short bristles: afterwards it is almost or quite glabrous ; the lobes of the *hypogynium* are obtuse and not more than one-fourth the length of the caryopsis. The margins of the leaves and sheaths are often only slightly scabrous.]

[2. S. *Neesiana;* culmo argute triquetro stricto angulis scabris, foliis strictis linearibus acuminatis apice obtusiusculo supra versus apicem margineque scabris, vaginis trialatis margine scabris, lobulo oppositifolio brevi subrotundo villoso-ciliato, paniculis axillaribus terminalique spicato-decompositis breviter pedunculatis ovatis, bracteis e basi dilatata brevi-membranacea nuda subulatis asperis, nuce (livide fusca) globoso-ovata obtuse subtrigona leviter undulato-rugosa pubescenti-hirtula mucronata, mucrone concolore, hypogynio tripartito lobis lanceolatis nuce dimidio brevioribus.

Hab. Circa urbem Macao; *Millett; G. H. Vachell, n.* 66. (ex parte.)

This species obviously approaches extremely close to *S. ciliaris*, but is not only very different in habit, but in the structure of the *hypogynium*, colour of the fruit, shape of the lobe that is opposite to the leaf, and in the want of the ciliæ on the bracteæ and bracteolæ. We have only seen one specimen sent by Mr. Millett, and another, but imperfect one, in Prof. Henslow's collection. The spikelets are in pairs, one male, the other female.]

3. S. *margaritifera. Willd.—N. ab E. l. c. p.* 118. (cum char. et syn.)

Trib. VII. Cariceæ. *N. ab E. l. c.*

15. CAREX. *Linn. N. ab E. l. c.*

1. C. *valida. N. ab E. l. c. p.* 123. (cum. char.)—C. ramosa. *N. ab E. in Herb. Lindl.*

Hab. Ad Macao et in insulis vicinis; *Millett. Vachell, n.* 66. (ex parte.)

Perigynium immaturum lanceolatum, acuminatum, ore acute bilobo, pubescens, maturum ovato-trigonum, nervosum, parum pubescens vel glabrum, rostro brevi spatio bifido, ore primum membranaceo obliquo. *Squamæ* acutiusculæ vel acutæ, nec mucronatæ. *Spiculæ* paniculatæ potius sive thyrsoideæ, quam corymbosæ. *Folia* lata, lævia, margine scabra, supra trinervia. *Culmus* inferne crassitie pennæ scriptoriæ.

[The above observations seem to have been made by our friend to show that this species was distinct from *C. ramosa*, Schk. In that species, however, Willdenow, on Schkuhr's authority, asserts that there are only two stigmas, notwithstanding that the fruit is triquetrous; it comes from the Mauritius. Sprengel combines with it a different plant, *C. cruciata*, Wahl. and Willd., and draws up a character, probably without seeing either, which partakes of both: *C. cruciata*, however, is from Canton, nor is there anything in Wahlenberg's description to induce us to suppose it distinct from the above *C. valida*, N. ab E., except where Wahlenberg says that the fruit has a short beak, while in our plant it is rather long; we consider them the same: the *C. cruciata*, N. ab E. l. c. p. 123, from Nepal and the Peninsula of India, is quite distinct, and is *C. Hookeriana*, Herb. Arn.]

2. C. *Retzii. N. ab E. l. c. p.* 128. (cum syn.)

[This we have not seen, nor does our friend Nees von Esenbeck appear to have met with any plant agreeing precisely with Retz's and Wahlenberg's description: we have, however, a solitary specimen before us from Canton, which we suspect must be the same, an account of which we subjoin, as it differs in one or two points from the character usually given.

Summitas sola adest, glabra, triquetra, pedem longa. *Bracteæ* anguste lineari-acuminatæ, apice triquetræ, margine scaberrimæ, inferiores spicas proprias æquantes, superiores spicis breviores. *Vaginæ* laxæ, inflato-tubulosæ, membranaceæ, lobulo oppositifolio brevi-rotundato. *Spicæ* haud approximatæ nec tamen distantes, in nostra 6, exsertæ at haud longe pedunculatæ, pedunculis inferioribus vagina duplo longioribus 1½ unciam longis, erectæ, cylindricæ, laxiusculæ, floribus in nostra multis caducis, inferiores quatuor femineæ, quinta fere omnino feminea flosculo unico vel gemino masculo versus spicæ basin, sexta seu summa mascula attamen florsculis paucis ad spicæ medium instructa, hinc forsan hermaphrodita. *Squamæ* patentes subulatæ fructu paullo longiores, stramineæ nervo carinali viridi. *Stigmata* tria. *Fructus* ventricoso-trigoni basi attenuati apice rostrati, valde nervoso-striati, setulis brevissimis hispiduli, patentes, rostro rectiusculo vel subrecurvo. *Rachilla* ad florum insertiones excavata.

Retz and Wahlenberg attribute to this a single purely male spike, remote female ones, and mention that the whole plant is a span long: our species is obviously considerably larger, the female spikes are not remarkably remote, and the mixture of female flowers on the terminal spikes may be the effect of accident. On the other hand, the description of the fruit, of the scales, of the sheaths to the bracteæ, of the bracteæ themselves, and especially their being about equal in length to the spikes, the number of stigmas, and the smoothness of the culm, are the same in both. We scarcely entertain a doubt respecting their identity.]

ORD. XC. GRAMINEÆ.* *Juss.*

TRIB. I. PANICEÆ. *N. ab E.*

1. PASPALUS. *Linn.*

a. GENUINI. *N. ab E.*

1. P. *scrobiculatus;* spicis paucis alternis rhachi contiguis, rhachilla plana repanda spiculas singulas (biseriales) æquante glabra margine scabra, spiculis suborbiculatis glabris, gluma 3-7 nervi, valvula neutra utrinque plicato-scrobulata, foliis linearibus acuminatis vaginisque glabris vel lamina basi pilosa.—P. scrobiculatus. *Linn. Mant.* 1. *p.* 29. *Flugg. Mon. p.* 86. *Kunth. En.* 1. *p.* 43.—P. Coromandelianus. *Lam.*—P. Kora. *Willd.*—*Rheed. Hort. Mal.* 12. *t.* 44.

[This varies with the glume 5-7-nerved and the spikes either in pairs or several, or 3-nerved, and then the spikes are usually in pairs: in the Chinese specimens (*Vachell,* "Z.") referred here by us, the glumes are 3-nerved; there are several (3-5) spikes, and the spikes are more spreading than usual; the plaits on the glumes, which are rather small for this species, are not very conspicuous. It is the only species, we believe, from the East, with orbicular spikelets placed in two rows on the rachis.]

b. PANICOIDEI. *N. ab. E.*

2. P. *Chinensis;* racemis 4-5 alternatim approximatis fastigiatis, spiculis geminis ternisve ovali-lanceolatis imbricatis, rhachi plana spiculis paullo latiori, gluma valvulaque neutra

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* The terms used by Professor Nees v. Esenbeck being not quite the same as those employed by Trinius, the following extract from his Memoir on the *Gramineæ,* in Wight and Arnott's *Prodromus Fl. Penins. Ind. Or. vol.* 2, (*ined.*) may be acceptable:—

"1. *As to the distribution of the spikelets.* The words *homogamous* (viz. spikelets) and *heterogamous* signify the distribution of the sexes in different spikelets on the same individual. They are called *homogamous* if there be no difference in this respect between any of the spikelets of the same individual, as in *Bromus:*—*heterogamous,* if the arrangement of the sexes be different in different spikelets from the same root, as in *Andropogon. Dioecious* signifies that there are some spikelets conformably male (whether provided with an accessory neuter floret or not) on one individual, and conformably female on another, as in *Gynerium:* and *monœcious,* that male and female spikelets (whether or not they be accompanied by a neuter floret) are distributed apart from each other, but on the same individual, as in *Zea.*

"*As to composition.* The terms *hemiologamous, hemigamous,* and *polygamous,* serve to indicate the distribution of the sexes among the different florets of the same spikelet. A spikelet is called *polygamous,* if one of the two florets which it contains be unisexual, and the other bisexual, as in *Spodiopogon,* and several *Panica.* A *hemiologamous* spikelet is that in which one of the two florets is neuter, and the other bisexual, as in several species of *Panicum. Hemigamous* signifies that a spikelet is composed of one neuter floret and another unisexual, whether male or female, as in *Ischæmum.* Spikelets are also called *Monoecious in composition,* where one of the two florets is male and the other female."—*N. von E.*

æquilongis pubescentibus 3-5-nervibus, flosculo neutro fusco subtilissime punctato, culmo erecto vaginisque glabris, foliis angustis supra velutino-scabris.—P. filiforme, Chinense. *Kunth. En.* 1. *p.* 46.

Hab. Ad Macao urbem; *G. H. Vachell,* "X." (ex parte.)

Differt a *P. filiformi* rhachi latiori recta, spiculis paullo majoribus imbricatis aut densius saltem confertis; a *P. nematode* culmo erecto gracili, vaginis foliisque protractis.

[Kunth's Chinese locality is taken from Roxburgh; but Roxburgh's *Panicum filiforme* is obviously a true *Panicum,* allied to his *P. lineare* (*P. pseudodurva,* N. ab E.) and *P. commutatum,* N. ab E., but differing by the upper glume being only half the length of the neuter floret, and both three-nerved and slightly villous on the margin.]

2. HELOPUS. *Trin.*

Eriochloæ genus Humb. et Kunth, secundum novissimum Kunthii librum idem ac *Helopus,* Trin. At vero characteres in Nov. Pl. Gen. et Sp. exhibiti, veram generis naturam non exprimunt. Itaque Trinianum nomen retinendum, quippo quo primum genus vero innotuerit.

1. H. *annulatus;* racemo decomposito laxo, rhachi triquetra glabra gracili, pedunculis bifloris, spiculis ovato-lanceolatis sericeo-pilosis, culmo ramoso glabro.—*N. ab E. Agrost. Bras. p.* 16.—Eriochloa annulata. *Kunth. En.* 1. *p.* 73.—Paspalus annulatus. *Flugge.—Trin. Ic. Gr.* 12. *t.* 133.—Milium ramosum. *Roxb. Fl. Ind.* 1. *p.* 15; (*ed. Wall.*) 1. *p.* 317.

Hab. Circa urbem Macao; *G. H. Vachell, n.* 57. (ex parte.)

Differt a reliquis sui generis gracilitate racemi, pedunculis longioribus bifloris, defectu vel minimi vestigii glumæ inferioris.

3. PANICUM. *Linn.*

a. Digitaria.

1. P. *commutatum;* racemis 3-5 subdigitatis erectis, rhachi scabra, spiculis subimbricatis geminatis, gluma inferiori minutissima subrotunda truncatave enervi, superiori lanceolata flosculo paullo breviori et duplo fere angustiori trinervi, quadrifariam dense lanata, valvula neutra 5-nervi interstitiis nervorum lateralium dense villosis, culmo basi repente foliisque glabris, vaginis ore barbatis.—*N. ab E. in Linnæa,* 7. *p.* 274.—P. ciliare. *Roxb. Fl. Ind.* 1. *p.* 290; (*ed. Wall.*) 1. *p.* 293.—P. filiforme. *Thunb.*—Digitaria commutata. *Schult. Mant. p.* 262.

Hab. Circa Macao urbem; *Millett. Vachell, n.* 34.

Species singulari integumento spicularum et foliis vaginisque extra oras glabris, ut et proportione glumæ superioris, tum a *P. ciliari,* tum etiam a *P. marginato,* Link, bene distincta.

b. Paspalidea.

2. P. *colonum;* spica composita, partialibus pluribus (5-9-nis) alternis discretis approximatis erectis, rhachi communi glabris, partialibus scabris, spiculis quadrifariis imbricatis ovatis turgidulis, glumis mucronulatis hispido-scabris, inferiori triplo breviori, flosculo neutro bivalvi valvula inferiori mucronata, hermaphrodito lævi mucronato, culmo basi ramoso nodis foliisque glabris, his margine scabris.—*α.* Culmo plerumque humiliori, foliis

lineari-lanceolatis brevioribus patulis, spicis partialibus sessilibus basi imberbibus, spiculis paullo majoribus. *Linn.*—*N. ab E. Agrost. Bras.* 2. *p.* 119. *Trin. Ic. Gram.* 14. *t.* 160.—β. Culmo plerumque altiori, foliis linearibus longioribus magis erectis strictiusculis, spicis partialibus (pluribus) sæpe breve pedunculatis (infimis saltem) basique setosis, spiculis paullo minoribus.—P. pseudocolonum. *Roth, Nov. Fl. Sp. p.* 47. *N. ab E. Agrost. Bras.* 2. *p.* 120.—P. colonum. *Roxb. Fl. Ind.* 1. *p.* 296; (*ed. Wall.*) 1. *p.* 299.—Oplismenus pseudocolonus. *Kunth, En.* 1. *p.* 142.

Hab. β. Circa Macao urbem; *Millett. Vachell, n.* 44.

Formæ α et β in numeris lusibus, (quod olim jam suspicatus eram, nunc autem clarissimis documentis comprobatum video) adeo miscentur, ut vix varietates habendas esse censeam, tantum abest, ut specie distinguendas.—Variant rachidibus propriis spiculisque valde hispidis.

[Some of our Chinese specimens are only 3-4 inches high and very slender, others about two feet.]

c. Paniculigera.

3. P. *ischæmoides;* panicula racemosa angusta, ramis alternis contractis, spiculis ovato-oblongis acutis glabris polygamis, gluma inferiori rotundata amplectente, superiori flosculique masculi inferiori valvula æqualibus 7-9-nerviis hermaphrodito oblongo obtuso lævi masculo breviori, culmo inferne dense vaginato, vaginis ore margineque molliter ciliatis, foliis distichis patentibus supra pubentibus. *Retz, Obs.* 4. *p.* 17. *Willd. Sp. Pl.* 1. *p.* 348. *Roem. et Sch. Syst. Veg.* 2. *p.* 433. *Kunth, En. p.* 125.—P. convolutum. *P. de Beauv.*—*N. ab E. Agrost. Bras.* 2. *p.* 173. *Presl, Rel. Hænk.* 2. *p.* 304. *Kunth, En.* 1. *p.* 130.

Hab. Circa Macao urbem; *Millett. Vachell, n.* 57. (ex parte.)

Spiculis in racemum decompositum coarctatum dispositis pallidis acutis, culmoque magis minusve rigido inferne vaginato, foliis, saltem ubi breviora sunt, rigidis distiche patentibus et siccando convolutis, supra semper basin versus pilosis, subtus modo glabris modo circa basin etiam pubescentibus, vaginarumque fimbria densa mollique a reliquis facile distinguitur.

4. P. *miliaceum;* panicula subnutante pedunculisque laxis, spiculis ovatis acutatis hemiologamis, gluma utraque mucronata, inferiore subduplo breviori 7-nervi, superiori flosculique neutrius inferiori valvula 11-nerviis nervis validis, hermophrodito ovali lævi, culmo ramoso, vaginis foliisque lato-linearibus tuberculatis et villosis, radice annua. *Linn. Hort. Cliff. p.* 27. *N. ab E. Agrost. Bras.* 2. *p.* 200. (cum syn.) *Roxb. Fl. Ind.* 1. *p.* 310; (*ed. Wall.*) 1. *p.* 312. *Kunth, En.* 1. *p.* 104.

Valvula flosculi neutrius superior brevissima.

[The few Chinese specimens we have seen, sent by Mr. Millett from Canton, are smaller and more slender than those we possess from the Peninsula of India, and the leaves are shorter and narrower; but we have no reason to suppose them specifically distinct.]

5. P. *psilopodium;* panicula capillari, ramis inferioribus basi præsertim strictis, ramulis subfasciculatis pedicellisque tenuissimis flexuosis scabris, axillis nudis, spiculis oblongis acutis glabris purpurascentibus lutescentibusve, gluma inferiori duplo breviori obtusa trinervi, superiori 7-nervi, flosculi neutrius bivalvis valvula inferiori 7-9-nervi, hermaphrodito oblongo lævi

culmo adscendente ramosissimo, vaginis foliisque lanceolato-linearibus glabris. *Trin. MSS. N. ab E. Agrost. Bras.* 2. *p.* 199. *Kunth, En.* 1. *p.* 100.—P. ramosum. *Koen. in Herb. Banks,* (fide herb. *Trin.*)—P. virgatum. *Roxb.* (fide ejusd.)

Hab. Circa Macao urbem; *Millett.*

Est species distinctissima, habitu e *capillarium* et *virgatorum* indole mixto. *Culmus* 1-2 pedes altus. *Nodi* glabri. *Vaginæ* glabræ, etiam margine, ore solo barbato, cingulo luteo infra laminam, ut in *P. miliari*, notatæ. *Folia* 4 pollices longa, glabra, margine scabriuscula. *Paniculæ rami* graciles, spatio quodam supra basin ramificati, compressi. *Ramuli* adpressi, demum patuli. *Pedicelli* uniflori, spicula lineam longa duplo sæpe longiores, uti ramuli flexuosi, primum pallidi, ætate purpurascentes. Quod ad spiculas, si demis magnitudinem, accedit *P. miliari* et *colorato*, sed inflorescentia longe differt, *P. capillare* magis referens.

[Roxburgh has no where described a *P. virgatum,* nor attached that name to any of his drawings; we presume, therefore, that he must have merely given it incidentally to some of Koenig's specimens in the Banksian Herbarium.]

6. P. *glaucum;* racemo spicato cylindrico, involucellis subbifloris multisetis spiculis duplo longioribus rigidis flavis antrorsum scabris, flosculo masculo bivalvi hermaphrodito undulato-rugoso, culmo adscendente sub inflorescentia anguloso, foliis culmo brevioribus lineari-lanceolatis basi barbatis. *Linn.—Willd. En. Hort. Ber.* 2. *p.* 1030. *N. ab E. Agrost. Bras.* 2. *p.* 240. (cum syn.) *Trin. Ic. Gram. t.* 195. *Roxb. Fl. Ind.* 1. *p.* 284. (*ed. Wall.*) 1. *p.* 287.—Setaria glauca. *Roem. et Sch. Syst.* 2. *p.* 490.—β. spiculis demum purpurascentibus et purpureo-fuscis.—P. purpurascens. *Humb. et Kunth, Nov. Gen. et Sp.* 1. *p.* 110. *Kunth, En.* 1. *p.* 151.

Hab. β. circa Macao urbem; *G. H. Vachell, n.* 45. *b.*

Involucellis brevioribus rigidioribus spiculisque majoribus facile distinguitur a *P. penicillato.*

7. P. *penicillatum;* racemo spicato cylindrico elongato, ramulis bifloris, involucellis unifloris multi (6-)-setis spicula triplo quadruplove longioribus gracilibus antrorsum scabris, flosculo hermaphrodito mucrone incurvo transversim undulato-rugoso, neutro masculove bivalvi, culmo erecto glabro sub racemo angulato-sulcato, foliis lineari-elongatis supra glaucis scabris basi plerumque barbatis. *Herb. Willd.—N. ab E. Agrost. Bras.* 2. *p.* 242.—P. glaucum. *Kunth, En.* 1. *p.* 149. (*nec Auct. Europ.*) *Humb. et Kunth, Nov. Gen. et Sp.* 1. *p.* 109.

Hab. Circa Macao urbem; *Millett. Vachell, n.* 37. *b.*

8. P. *Italicum;* racemo terminali erecto vel nutante decomposito lobato-spiciformi elongato, rachi hirsuta, racemis partialibus confertissimis ovatis oblongisve densifloris, involucellis sub singula spicula unisetis spicula triplo et ultra longioribus flexuosis antrorsum (i. e. retrorsum tangenti) scabris, flosculo inferiori neutro valvula superiori minuta, hermaphrodito subtiliter punctulato, culmo erecto ramoso vaginisque lævibus, foliis late linearibus supra scaberrimis ligulæ loco stricte barbatis. *Linn. Sp. Pl. p.* 83. *Roxb. Fl. Ind.* 1. *p.* 302. (*ed. Wall.*) 1. *p.* 305. *Trin. Ic. Gram. t.* 198.—Setaria Italica. *Kunth, En.* 1. *p.* 153.—Pennisetum Italicum. *Br. Prod.* 1. *p.* 195.

Hab. Circa Macao urbem et in insulis vicinis; *Millett. G. H. Vachell.*

9. P. *viride. Linn.—Smith in Engl. Bot. t.* 875. *Trin. Ic. Gram. t.* 203.—Pennisetum viride. *Brown. Prod.* 1. *p.* 195.—Setaria viridis. *P. de Beauv.*

Hab. Ad Macao et in insulis vicinis; *G. H. Vachell, n.* 37. *a.*

In forma Chinensi, *folia* pilosa, *vaginæ* autem glabræ, *flosculus* haud læviusculus sed granulatim undatimque exasperatus.

[Of this the specific character is unfortunately wanting in Nees von Esenbeck's manuscript, and we have not seen Mr. Vachell's specimen: if, however, a species which we have received from Millett, also from Canton, be the same, it constitutes a form intermediate between the English *P. viride* and small states of *P. Italicum;* the raceme is slightly lobed, and all the ramuli as well as the involucral bristles are very patent. If we be correct in referring these specimens, *P. viride* can only be distinguished from *P. Italicum* thus:—Racemo arcto simpliciter vel sublobato-spiciformi breviusculo, racemis partialibus subsessilibus paucifloris, involucellis rectiusculis, foliis pilosis vel glabris.—All the remainder of the character of *P. Italicum* applies to *P. viride;* in both, the fertile floret is more or less conspicuously but minutely and transversely rugulose.]

d. Echinochloa.

10. P. *hispidulum;* [spica composita erecta, partialibus subverticillatis subadpressis basi et ad insertiones spicularum barbatis omnibus simplicibus, rachi 3-4-angulata striata, spiculis quadrifariis ovatis turgidis hispidis pallidis, gluma inferiori orbiculari-ovata mucronata trinervi spicula triplo breviori basi amplectente cucullata, superiori ovata mucronato-acuminata 5-nervi, flosculi neutrius valvula inferiori longe setigera, caryopsi lævi ovata gibba subrostellata, culmo suberecto vaginis foliisque glabris, his supra margineque scabris, ligula nulla. *Lam. Enc. Meth.* 4. *p.* 744. *Retz, Obs.* 5. *p.* 18. *N. ab E. Agrost. Bras. p.* 256.—Digitaria hispidula. *Willd. En. Hort. Ber.* 1. *p.* 91.—Echinochloa hispidula. *Schult.*—Orthopogon Retzii. *Spr. Syst.* 1. *p.* 307.

Hab. Circa Macao et in insulis vicinis; *Millett. Vachell, n.* 43.

We have drawn up the above character from Chinese specimens, among which we have two extreme forms with every gradation between them; one has the partial spikes short, close pressed to the rachis, and the bristle of the neuter floret is seldom longer than the spikelet; the other is much more luxuriant, having more numerous and slightly spreading partial spikes, and the bristle, although short in some spikelets, is usually 3-8 times longer than the florets: this last state approaches so closely to *P. crus-Pavonis,* N. ab E. (Agrost. Bras. p. 259.) that we cannot detect any difference, except in the latter having the lower partial spikes compound, and perhaps the lower glume not cucullate. Between *P. hispidulum* and *P. cæsium,* notwithstanding the differences pointed out by Nees von Esenbeck below, we find still greater difficulty of drawing a line: in Prof. Henslow's specimens of the latter, determined by Nees von Esenbeck himself, the rachis is certainly striated, the lower glume is cucullate, and the upper as distinctly 5-nerved as that of *P. hispidulum,* while the glaucous hue, as well as the colour and size of the spikelets, is too dependant on soil and situation to afford any but secondary characters; we have thus left only the convex back of the rachis and the decidedly alternate partial spikes to characterise it, and that these are constant and not the effect of fortuitous circumstances we have reason to doubt.]

11. P. *cæsium;* spica composita erecta, partialibus alternis subadpressis basi et ad insertiones spicularum barbatis, rachi inferne semitereti compressa superne triquetra dorso convexo, spiculis quadrifariis ellipticis hispidulis coloratis, glumis ovatis trinervibus, inferiori spicula triplo breviore acuta, superiori acuminata, flosculi neutrius bivalvis valvula inferiori

longe setigera, caryopsi ovali lævi subrostellata, culmo procumbente ramoso, vaginis foliisque linearibus glaucis his margine scabris, ligula nulla.

HAB. Ad Macao urbem; *G. H. Vachell, n.* 45.

P. hispidulo affine, a quo differt: glaucedine, culmo gracili procumbente adscendente, spiculis minoribus purpureis, rachi dorso convexa læviuscula nec striata, subtus carinata, nervis glumarum paucioribus, &c.

2. ISACHNE. *R. Brown.*

1. I. *muricata;* panicula ovali rigidula flexuosa, ramis prope a basi divisis, spiculis subglobosis quoad compositionem monoicis, inferiori flosculo masculo lævi, superiori femineo hirto, glumis obovatis tuberculato-asperis, culmo repente, foliis subcordato-oblongis supra asperis dense striatis, ligula setosa. *N. ab E. in Wight, Cat. n.* 1658.—I. dispar. *Trin. Ic. Gram. t.* 86. *Kunth, En.* 1. *p.* 136.—I. pulchella. *Roth?*—Panicum muricatum. *Retz, Obs.* 4. *p.* 18. *Willd. Sp. Pl.* 1. *p.* 348. *Kunth, En.* 1. *p.* 131. *N. ab E. Agrost. Bras. p.* 207. —P. violaceum. *Rottl.*—P. fuscum. *Herb. Smith,* (non *Swartz.*)

HAB. Apud Cantonem; *Millett.*

Inter reliquas *Isachnes* statura, foliis asperrimis, panicula parva 1-1½ pollicem longa, plerumque fusco-purpurea, glumis muricatis, flosculis diclinibus facile distinguitur.

[Our Chinese specimens have the glumes much less conspicuously muricated than in those from Dr. Wight, collected in the Peninsula of India; but there is no other difference. Some of our plants from Dr. Wight have the panicle 3 inches long. It is probable that both *I. pulchella* and *I. miliacea* of Roth are referrable here, there descriptions being bad. *P. patens,* Roxb., seems likewise to be the same, judging from his drawing in the East India Company's Museum, t. 803, notwithstanding that both in the description and figure he has represented the upper floret as bisexual, an error he might have readily fallen into on the supposition of its being a species of *Panicum.*]

3. GYMNOTHRIX. *P. de Beauv.*

1. G. *Japonica;* racemo cylindraceo, pedicellis spiculam subæquantibus, rachi culmoque superne hirsutis, involucri uniflori setis omnibus simplicibus scabris interioribus spicula multo longioribus. *Kunth, En.* 1. *p.* 158.—Pennisetum Japonicum. *Trin. in Spr. Neue Entd.* 2. *p.* 76; *Ic. Gram. t.* 19.—Penicillaria Chinensis. *N. ab E. in Herb. Lindl.* (cum char. supra data descriptioneque sequente.)—Cenchrus purpurascens. *Thunb. in Linn. Soc. Trans.* 2. *p.* 329.

HAB. Ad Macao et in insulis vicinis; *Millett. G. H. Vachell, n.* 48.

Habitus *Penicillariæ cylindricæ,* sed spicularum et involucrorum constructio diversissima. *Culmus* inferne glaber, ad apicem vaginatus. *Vaginæ* glabræ, ad basin laminæ cingulo villoso cinctæ. *Ligula* truncata. *Folium* (supremum ¾ ped. longum 1½-2 lin. latum) lineare, margine baseos subciliatum. *Spica* 8-9 pollices longa, utrinque acuta. *Culmus* infra spicam et rachis hirsutissima. *Pedicelli* lineam longi. *Spicula* pallida, 3 lin., involucelli setæ interiores 8 lineas longæ; hæ pallidæ, apice roseæ. *Gluma* inferior minutissima rotundata; superior ovato-lanceolata acuta valvula flosculi neutrius unica, plana, 7-nervis, acuta, fertilis flosculi inferior apice 3-5-nervis, utraque lanceolata. *Antheræ* et *stigmata* violaceo-fulva.

[It is probable that the above description had been taken from a single imperfect specimen. We have, however, a more complete series before us; some, and indeed almost all the specimens, (except those in a young state,) bear a closer resemblance to *G. alopecurus,* N. ab E. in Herb. Wight, (or *G. cenchroides,* Kunth, excluding all syn.) and even to *G. hordeiformis*, N. ab E. (or *G. caudata*, Kunth,) than to any species of *Penicillaria*: nd this appearance is supported by the structure of the spikelets, which is truly that of *Gymnothrix*. In *Penicillaria*, however, the inflorescence is a raceme with the pedicels and involucres persistent; in *Gymnothrix* it is usually a spike, the sessile involucres being deciduous: in the present plant, it is a raceme, but the short pedicels, as well as the involucres, are deciduous, thus agreeing in every point with the genus to which we have removed it. The leaves are glabrous, but, at the same time, scabrous on their margin. The spike, or rather raceme, is usually about three or four inches long; we have rarely seen it so long as described above: at first it is acute at both ends, but afterwards the pedicels often spread out horizontally, presenting a lax appearance. Pedicels frequently a line and a half long, articulated with the rachis. The bristles of the involucre are at first pale, but afterwards of a beautiful purple from almost their base to the apex. From *G. alopecurus*, the only other species with distinct pedicels, it is readily distinguished by their being almost as long as the spikelets. Trinius' figure is excellent, if taken from a young specimen; he, and Nees von Esenbeck, and we also, have found only one spikelet in each involucre: Kunth says that there are one or two.]

TRIB. II. TRISTEGINEÆ. *Link.*

4. ARUNDINELLA. *Raddi.*

SUBGEN. 1. ACRATHERUM. Arista apici valvulæ integro inserta.—*Acratherum*, Link.

1. [A. *glabra;* culmo foliisque linearibus valde acuminatis glabris, vaginis ore barbatis, paniculæ coarctatæ elongatæ, ramis fasciculatis a basi florigeris, glumis (fuscis) minutissime pubescentibus subelevato-nervosis, inferiori $\frac{1}{4}$ breviori, flosculi fertilis valvula inferiori (seu setigera) acuminata.

HAB. Prope Macao; *G. H. Vachell*, "T."]

SUBGEN. 2. MILIOSACCHARUM. *Valvula* inferior flosculi fertiles apice bifida, laciniis setiformibus, inter lacinias aristata. *Spiculæ* geminæ aut solitariæ, homogamæ, hemiologamæ, conformes, pedicellatæ. *Glumæ* duæ, herbaceo-membranaceæ, inæquinerves, caudato-acuminatæ, flosculis plerumque longiores; superior major. *Flosculi* membranaceo-chartacei, inferior major neuter, cum rudimentis genitalium, bivalvis, valvula inferiori plurinervi integra, superiori plana margine inflexa; superior bivalvis, valvula superiori binervi apice bidentata inter dentes emittente setam basi tortam. *Lodiculæ* magnæ, oblongæ, emarginatæ, angulis obtusis, plicatæ, crassiusculæ. *Stamina* tria, antheris violaceis. *Styli* basi concreti, filiformes. *Stigmata* penicillata, violacea. *Caryopsis* libera, compressa, mucronata, valvulis durescentibus inclusa. *Racemus* compositus, nudus, glaber, imberbis. *Racemuli* filiformes. *Spiculæ* lanceolatæ, distantes, aut panicula capillaris.—Gramina *erecta*. Vaginæ *internodiis breviores una cum foliis linearibus planis attenuatis hirsutæ.* Nodi *glabri*. Spiculæ $2\frac{1}{2}$ *lineas longæ subulato-acuminatæ, sordide virides.* Flosculus *fertilis callo insertus, secedens.*

2. A. (M.) *nervosa;* racemo composito, spiculis geminis, gluma superiori subduplo longiori, flosculo fertili apicem versus muricato-aspero, foliis vaginisque hispidis, his basi lævibus. *N. ab E. in Herb. Wight. Wight, Cat. n.* 1669.—Holcus nervosus. *Roxb. Fl. Ind.* 1. *p.* 318. (*ed. Wall.*) 1. *p.* 320.—β. laxa teneriorque, paniculæ ramis distantibus, spiculis omnino glabris. *N. ab E. in Wight, Cat. n.* 1669. *b.*

HAB. β. Circa Macao urbem; *G. H. Vachell*, "V."

Culmus pedalis et altior, erectus, e radice fibrosa torta, crassitie fili emporetici, teres, lævis, cum nodis glaber, inferne purpurascens, 4-nodus, ramosus. *Vaginæ* arctæ, internodiis breviores, striatæ, tuberculis setisque rigidis patentibus conspersæ. *Ligula* brevissima, truncata, denticulata, fusca. *Folia* 2-2½ poll. longa, vix lineam lata, plana, acuminata, ad modum vaginarum hispida. *Racemus* compositus, 4-6-[in forma Chinensi 8-10-]-pollicaris subnutans, ramis 1½-2 [in Chinensi 3-4] poll. longis alternis, erectis [in Chinensi patentibus], ad basin usque fasciculatim divisis. *Rachis* undata, striata, glabra. *Spiculæ* inferiores geminæ, superiores alternæ, erectæ, lanceolatæ, glabræ aut apicem versus in costis setis raris conspersæ, omnes pedicellatæ. *Pedicelli* graciles, scabri, geminatorum alter ½-¾, alter 1½ lineas longus. *Glumæ* glabræ, e basi oblongo-lanceolata caudato-acuminatæ, apice convoluto, lutescentes; inferior 1¼ lin. longa, 5-nervis; superior 2¼ lin. longa, 7-nervis. *Flosculus* inferior magnitudine glumæ inferioris, abortu neuter, membranaceo-chartaceus, bivalvis; valvulæ æquales, lanceolatæ, muticæ, læves, albæ; inferior dorso plana, obtusa, apice autem convoluta proptereaque ad speciem attenuata 5-nervis, nervis obsoletis; superior plana, marginibus inflexis. *Genitalia*, præsertim ovarium, incompleta cernuntur. *Flosculus* superior hermaphroditus, ½ lin. longus, bivalvis, chartaceus; valvula inferior lanceolata, attenuata, apicem versus muriculata, apice biseta et inter setas proferens aristam geniculatam valde tortilem, 4 lin. longam, basi purpuream apice pallidam; setæ albæ; valvula superior minor, lanceolata, obtusa. *Lodiculæ* magnæ generis. *Stamina* tria, antheris violaceis. *Caryopsis* lutea. Tempore maturescentis fructus durescunt valvulæ et colore saturate fusco tinguntur.

TRIB. III. SACCHARINEÆ.

SUBTRIB. I. SORGHEÆ.

5. CHRYSOPOGON. *Host. Trin.*—Raphis, *Lour.* (non *Linn. fil.*)

1. C. *aciculatus;* culmo stricto simplici, foliis vaginis brevioribus lanceolatis obtusiusculis margine scaberrimis, seta spicula sua subtriplo longiore, gluma superiori breviseta, spiculis coloratis, paniculæ ramis strictis tristachyis.—*Trin. in Act. Petrop.* 7. *p.* 316.—Raphis trivialis. *Lour. Fl. Coch.* 2. *p.* 676. *Trin. ic. Gram. t.* 8, 9.—Andropogon acicularis. *Willd. Sp.* 4. *p.* 906. *Kunth, En.* 1. *p.* 505. *Hook. et Arn. supr. p.* 72, *et* 102.—A. aculeatus. *Roxb. Fl. Ind.* 1. *p.* 262; (*ed Wall.*) 1. *p.* 266.—*Rumph. Herb. Amb.* 6. *t.* 5.—*Rheed. Hort. Mal.* 12. *t.* 43.

HAB. Circa Macao et in insulis adjacentibus; *Millett. G. H. Vachell, n.* 49.

Spiculæ 2 lin. longæ. *Glumæ* pectinato-hispidæ, lanceolatæ, æquales. *Valvula* flosculi fertilis inferior oblongo-lanceolata, villoso-ciliata. *Barba* ad basin spicularum brevis.

SUBTRIB. II. ANDROPOGONEÆ.

6. POGONATHERUM. *P. de Beauv.*—Homoplitis. *Trin.*

1. P. *polystachyum. R. et Sch. Syst. Veg.* 2. *p.* 497. *N. ab E. in Herb. Wight. Wight Cat. n.* 1679.—P. saccharoideum. *P. de Beauv. Agr. t.* 10. *f.* 7.—P. crinitum. *Trin. Fund. p.* 166. *Kunth, En. p.* 478.—Saccharum paniceum. *Lam. Enc. Meth.* 1. *p.* 549; *Ill. t.* 40. *f.* 3?—Perotis polystachya. *Willd. Sp.* 1. *p.* 324.—Andropogon monandrus. *Roxb. Fl. Ind. p.* 260; (*ed. Wall.*) 1. *p.* 264. (fide *Wight et Arn.*)

HAB. Circa Macao; *Millett. Vachell, n.* 36.

Quod ad figuram in universum nostra exempla descriptioni Willdenowianæ et iconi Palisotianæ respondent. Sed flosculus inferior in speciminibus Wightianis [atque Chinensibus] vel deest omnino vel adest neuter univalvis, valvula exigua lineari, gluma inferiori multo minore. Reliqua ut apud Belvisium; hic autem flosculum neutrum distincte bivalvem majusculum exhibet, qualem et in speciminibus Royleanis coram habeo. Cl. R. Brown, *Saccharum paniceum*, Lam. citans, valvulam flosculi hermaphroditi superiorem deficientem notat. An itaque plures hic species, nescio an plura fors genera, latent?

[In Prof. Nees V. Esenbeck's MS. to Dr. Lindley, and more lately in a letter to ourselves, we find that he now inclines to consider the species from Dr. Wight, also from Ceylon and China, as a distinct one, and he thus characterises it:—"*P. refractum;* gluma inferiori breviori truncata, superiori apicem versus hirta, seta flosculi fertilis basi refracta.—Differt e *P. polystachyo* (scil. plantæ, cui nomen hoc reliquimus) spiculis duplo fere minoribus, vix lineam longis, cum isti 1½ lineam sint longæ, opacis; gluma inferiori breviori et ratione longitudinis latiori, fere recta truncata; superiori apicem versus hirsuta, seta flosculi ab origine fere arcu parvo refracta quæ isti leniter retrovergens subtortuosaque. Reliqua utrisque conveniunt. Flosculus inferior univalvis, superior bivalvis, valvis ciliatis. Folia angusta valde scabra, magis tamen in *P. refracto*, ad os vaginæ longe barbata.—*P. polystachi* diagnosis hæc est: *P.* glumis æqualibus lævibus apice barbatis, seta recurva flexuosa."—The direction of the seta, however, is perhaps inconstant: it is erect in Roxburgh's figure (in E. I. C. mus. tab. 875.) of his *Andropogon monandrus*, and in some of Dr. Wight's younger specimens; but Roxburgh's plant is certainly *P. refractum*, for although in his description he states the glumes to be equal, he represents them unequal, and the lower one of the sessile spikelet truncated in his drawing, and besides, the lower floret appears to have been so minute as to have escaped his notice. In the specimen of *P. polystachyum*, N. ab E., which we possess, we are uncertain from what part of India, the lower floret of the sessile spikelet is conspicuously 2-valved, as in Beauvois' figure, and contains a single apparently imperfect stamen, which falls out as soon as the florets expand, and is therefore only to be observed in an early stage: the bisexual floret contains two fertile stamens. The pedicelled spikelet has the lower floret, so far as we have observed, always neuter, and with one conspicuous valvelet, and the upper one with or without one unfertile stamen. When Mr. Brown speaks of *Saccharum paniceum*, Lam., not having an upper valvelet to the upper floret, he probably merely alluded to Lamarck's figure, where it is erroneously represented so.]

7. HOMOEATHERUM. *N. ab E.*

Spiculæ in axi articulata geminæ heterogamæ; altera sessilis hemigama, altera pedicellata neutra. HEMIGAMÆ: *glumæ* duæ, membranaceo-chartaceæ; inferior angustior minorque canaliculata, 2-4-nervis; nervis lateralibus in dentes setasque excurrentibus; superior cymbiformis compressa ad apicem bifidum e nervo medio longe setigera. *Flosculi* duo membranacei tenues: *inferior* univalvis, valvula lanceolata ciliata mutica aut in setulam subtilem extenuata: *superior* bivalvis; valvula inferior lanceolato-cymbiformis inter lacinias apicis latiusculas ciliatas setam emittens validam, inferius tortam in medio reflexam; valvula superior minor, linearis, binervis, bidentata, dorso concava lateribus inflexis. *Lodiculæ* subcarnosæ, coloratæ (flavæ). truncato-bidentatæ. *Stamen* (in unica specie) unum. (*Antheræ* fulvæ.) *Styli* discreti; *stigmata* aspergilliformia. NEUTRI: *glumæ* duæ; *inferior* subherbacea, plana, multinervis, ex apice bidentato bisetove longius setigera; *superior* angustior, submembranacea, margine inflexa, ex apice ciliato brevi-dentato setam parvam emittens. *Flosculi inferioris neutriusque* valvula plus minus evoluta. *Flosc. superior* omnino deest.—Inflorescentia: spicæ *geminatæ, in pedunculis vagina microphylla involutis subfasciculatæ.* Racheos articuli *cuneiformes, apice oblique truncati et excavati, oblique trigoni, latere exteriore latiori convexo.* Pedicelli spiculæ imperfectæ *articulis racheos similes, hinc convexi, inde concavi. Habitus omnino* Andropogonis e *sectione* Cymbopogonum.

Est genus intermedium inter *Pogonatheram* P. de B. et *Andropogones*, illis tamen revera magis propinquum. Differt a *Pogonathero* genere spiculis singuli paris non modo heterogamis, sed etiam forma diversis, gluma utraque spiculæ pedicellatæ setigera, inferiori quoque spiculæ sessilis sæpe biseta; tum vero lodiculis distinctis carnosisve.

1. H. *Chinense. N. ab E. in Herb. Lindl.*

HAB. In China circum Macao et in insulis adjacentibus a Julio in Septembrem 1829, legit *G. H Vachell, n.* 52.

Folia et pars inferior culmi desunt. Summitas plusquam pedalis. *Culmus* crassitie pennæ columbinæ, alternatim canaliculatus, lævis. *Genicula* glabra. *Vaginæ* longæ, lanceolatæ, compressæ, folio terminantur angusto acuminatissimo complicato glabro glaucescente. *Pedunculi* axillares gemini; quorum alter brevior et simplex; alter longior iterumque divisus. *Vaginæ* propriæ communi similes, lamina autem multo minori, quandoque omnino deficiente, margine membranaceæ, pallide rufescentes, glabræ. *Rachis* lutescens; articuli ejus extrorsum, pedicelli utrinque basin versus longe ciliati. *Spicula sessilis* 2 lineas longa, lanceolata, flavescens, glabra, setis glumæ inferioris (ubi adsunt) gluma sua paullo brevioribus superioris seta eadem longiori recurva: seta flosculi fertilis fere pollicaris, scabra, infra genu fuscescens. *Spiculæ pedicellatæ*, gluma inferior oblongo-lanceolata, purpurascens, decemnervis, superius ciliata; superior alba, subfimbriata; seta glumæ inferioris 3-4 lineas longa, superioris seta 1½-2 linearum est.

8. IMPERATA. *Cyrill.*

1. I. *Koenigii ;* foliis fasciculorum angustis elongatis, culmeis brevioribus in vaginis summis denique obsoletis basi ciliatis, panicula spiciformi laxiuscula, nodis plerumque barbatis. —*P. de Beauv. Agrost. p.* 165. *Roem. et Sch. Syst. Veg.* 2. *p.* 289. *Link, Hort. Ber.* 1. *p.* 236.—I. arundinacea. *Kunth, En.* 1. *p.* 477.—Saccharum Koenigii. *Retz, Obs.* 5. *p.* 16. *Pers. Syn.* 1. *p.* 103.—S. cylindricum. *Roxb. Fl. Ind.* 1. *p.* 234*; (ed Wall.)* 1. *p.* 239.—α; foliis caulinis superioribus brevissimis, nodis omnibus longe barbatis, pilis arrectis. Saccharum Koenigii. *Retz, et Auct. citatorum.*—β; foliis caulinis magis conspicuis longiusculis sæpe convolutis, foliis radicalibus pluribus, vaginis distichis, nodis vel inferioribus saltem vel omnibus glabris et imberbibus, barba etiam ubi adest breviori. Sacch. Thunbergii. *Retz, Obs.* 5. *p.* 17 ?

HAB. α. Circa Macao atque in insulis adjacentibus; *G. H. Vachell, n.* 47. *a.*

Folia culmi infima conferta, subcæspitosa, fasciculorum foliis latiora, duplo breviora.—*Gramen caricosum A.* Rumph. Herb. Amb. 6. t. 7. f. 2. *a.* vix hujus loci, quippe cui folia 4-5-pedes alta, pollicem fere lata tribuantur, cum in nostro culmi ½-2 pedes alti, nec folia altiora, et 1-1½ lin. lata, basi angustiora. Spica cylindrica ½-3 poll. longa et paullo longior.

[Roxburgh in his Flora Indica states, concerning the leaves, " those of the root or lower part of the culm are much longer than the culm, tapering equally towards each end;" and as his observations were made on the living plant, we suspect that Nees has taken his description from herbarium specimens only: at the same time, Rumphius' figure can scarcely be our plant; perhaps it is a true species of *Saccharum.*]

9. SACCHARUM. *Linn.*

1. [S. *Sara ;* panicula subcontracta elongata, ramis semiverticillatis decompositis, ramulis superioribus triquetris pilis albis adspersis, spiculis hemigamis conformibus, glumis subulato-acutatis dorso longe pilosis, floscula neutrius valvula glumas fere æquante, flosc. hermaphrodito bivalvi, valvula inferiori flosculo neutra paulo breviori oblonga apice setulifera, superiori plus dimidio breviori ovata, omnibus ciliatis.—S. Sara. *Roxb.? Fl. Ind.* 1. *p.* 244*; (ed Wall.)* 1. *p.* 249. *in Cœt. Merc. Angl. Ind. Or. Mus. tab.* 1113.

HAB. Circa Macao, et in insulis vicinis; *Millett. G. H. Vachell, n.* 31.

Of this, which seems to be very common about Macao, we have not received the leaves. It appears to be a remarkably tall plant, and the panicle is very similar to that of *S. officinarum*, from which, however, it differs by the large and conspicuous valvelets of the fertile floret. *S. procerum* differs by the upper valvelet of the bisexual floret.

S. *exaltatum,* according to Roxburgh's observations and drawing, has the upper valvelet of the bisexual floret wanting in the pedicelled spikelet, but about equal to the other and acute in the sesile one; according, however, to N. v. Esenbeck's examination of what he considers the same plant, in Dr. Wight's herbarium, it is the upper valvelet of the pedicelled (not the sessile) spikelet which is equal and similar to the other, while in the sessile one it is much shorter and obtuse. As we have not seen the leaves of the Chinese plant, we are uncertain about its being the same as Roxburgh's; and, besides, that author, in his drawing, represents the upper valvelet much narrower and more acuminated than in our specimens, but probably his figure may be inaccurate in that respect. The neuter valvelet and both those of the fertile florets are ciliated.

2. S. *chinense;* paniculis ovatis contractis, ramis verticillatis subcompositis, gluma infera chartacea, flosculi fertilis valvula inferiori nulla, foliis planis margine hispidis. *Roxb. Fl. Ind.* 1. *p.* 239; (*ed. Wall.*) 1. *p.* 244. *Corom.* 3. *t.* 232. *Kunth, En.* 1. *p.* 474.

In nostro specimine (in Benghala superiori a Royleo lecto) panicula magis contracta; sed distinctissimum *valvula* inferiori flosculi fertilis omnino deficiente; superiori autem satis conspicua, lineari-lanceolata, ciliata. *Valvula neutra* ista major, lanceolata, magis ciliata. *Lodiculæ* cuneiformes, truncatæ, pro magnitudine spiculæ satis magnæ. *Glumæ* glabræ. *Vagina* suprema ventricosa, in folium angustum attenuatum contracta.

10. HETEROPOGON. *Pers.*

1. H. *contortus. P. de Beauv.—N. ab E. Agrost. Bras. p.* 363 (cum syn.); *in Linnæa,* 7. *p.* 284.—Stipa spicata. *Thunb. Fl. Cap. p.* 19.

Hab. Ad Macao et in insulis adjacentibus; *Millett; G. H. Vachell, n.* 46 (ex parte).

[After having carefully examined the Chinese plant, and *H. polystachyus* R. et Sch., of which last N. ab Esenbeck considers the *Andropogon contortus* of Roxburgh, and perhaps also of Linnæus, (but not of Brown's Prodr. 1. p. 201,) to be a variety with solitary spikelets, we can see no good grounds for separating them. Both have the peduncles elongated and often fascicled, each with one short-leaved sheath, the male spikelets ciliated, and the leaves linear scabrous and more or less ciliated at the base: in the Chinese specimens the hairs on the glumes and leaves are softer, and spring out of inconspicuous tubercles; in Dr. Wight's specimens of *H. polystachyus* the hairs are rigid, and arise from pretty large tubercles, but we can see no other difference between the two; if then our friend be correct in referring our Chinese plant to *H. contortus,* we should be inclined to reunite to it *H. polystachyus.*

11. ERIANTHUS. *Rich.*

1. E. *tristachyus;* spicis terminalibus 2-5 simplicibus griseo-hirtis, glumis ferrugineis basi margineque griseo-hirtis, inferiori plana rigidaque, flosculi hermaphroditi seta spicula triplo longiore, culmo simplici nodis glabris basi bulboso ferrugineo-tomentoso, foliis linearibus basi vaginisque apice hirsutis.—α; spicis 2-3, vaginis apice tantum hirsutis. *N. ab E. in Wight Cat. n.* 1691.—Andropogon tristachyus. *Roxb. Fl. Ind.* 1. *p.* 256; (*ed. Wall.*) 1. *p.* 261.—A. trispicatus. *Sch. Mant.* 2. *p.* 452. *Kunth, En.* 1. *p.* 498.—β; spicis 2-5, spiculis paullo majoribus, glumarum villis longioribus, vaginis basi et apice hirtis.

Hab. β; In vicinia urbis Macao, inque insulis adjacentibus; *G. H. Vachell, n.* 35.

Ab *E. aureo,* N. ab E. in Wight, Cat. n. 1690, cui proximus, notis memoratis bene distinguitur. Memorabilis est *bulbus culmi* cæteroquin gracilis erecti et simplicis, piso major, densissime tomento ferrugineo tectus. Culmi apex tomentoso-hirtus. Lodiculæ carneæ, crassiusculæ, bidentatæ.

[The one spikelet is sessile, the other pedicellate; of both, the upper valvelet of the fertile floret is from two to three times shorter than the lower or awned one: the awn is twisted and flexuose.]

2. E. *Japonicus;* panicula (racemo composito) apice fastigiata, spiculis pilos involucri strictos grisescentes subæquantibus, glumis glabris, seta flexuosa, foliis lineari-ensiformibus serrulato-scabris strictis. *P. de B.—Roem. et Sch. Syst. Veg.* 2. *p.* 324. *Kunth, En.* 1. *p.* 479.—Saccharum Japonicum. *Thunb. in Act. Soc. Linn.* 2. *p.* 328. *Willd. Sp. Pl.* 1. *p.* 321.—S. polydactylon. *Thunb. Fl. Jap. p.* 42.—Obanna. *Kœmpf. Am. Exot.* 5. *p.* 899.

Hab. In insula Lappas; *G. H. Vachell, n.* 31. *b.*

Gramen altum, rigidum, orgyale. *Involucrum* spicularum patulum, e pilis rectis haud ita mollibus griseo-albidis spicula paullo longioribus. *Glumæ* exquisite acutatæ, læves, stramineæ, glabræ; inferior $2\frac{1}{2}$ lin. longa, superior paullo brevior. Seta 4-5 lineas longa, tenuis, pallida, superiora versus flexuosa. Quibus observatis, quomodo differat ab ***E. versicolore***, patet.

[To the above may be added:—*Gluma* inferior planiuscula, binervis; superior dorso convexa vel potius subcymbiformis, trinervis, nervis extus fere obsoletis intus satis conspicuis, margine ciliata. Flosculi superioris *valvula* inferior bifida cum arista flexuosa torta, superior in exemplis nostris plane deficiens. *Spiculæ* geminæ: una breviter ($\frac{1}{3}$-$\frac{1}{2}$ lin.), altera recurvo-patula longiuscula ($1\frac{1}{2}$-2 lin.) pedicellata, pedicello utriusque glaber.—Thunberg found this in Japan; we have it also from Otaheiti.]

12. SPODIOPOGON. *Trin.*

1. S. *villosus;* repens, foliis lineari-lanceolatis pilosis basi longe ciliatis, nodis vaginisque villosissimis, spica bifida, spiculis rhombeo-ovalibus, gluma inferiori basi convexa lævissima a medio depressa (in spicula pedicellata compressa) stricta anguste marginata bidentata, superiori subulato-acuminata, seta flosculi (dorsali) spicula duplo longiori, rhachi triquetra alternatim semifurcata geminiflora angulis poriformibus, articulis pedicellisque breviter ciliatis.

Hab. Prope Macao.

Perquam similis est *S. obliquivalvi*, N. ab E. (qui *Ischæmum aristatum*, Roxb., non Lin., et *I. ciliare*, Retz, at non *Arthraxon ciliare*, P. B.) sed bene distinctus inter confines vaginis nodisque pilis longis mollibus patentibus dense villosis, gluma superiori subulato-acuminata, nec bidente cum brevi apiculo interjecto, seta longiori fortiori, spiculisque majoribus et rhachi triquetra. *Folia* 3-4 pollices longa, duas lineas lata, acuminatissima, supra pilosula, et circa margines inferius longe ciliata. *Spicæ ramus* alter brevis. *Spiculæ* 2 fere lineas latæ, glabræ: *glumæ* margine scabræ; inferior a basi ad medium lævis in parte depressa striataque sæpe transversim subrugosa aut lacunosa; superior paullo longior. *Seta* e dorso valvulæ medio infra incisuram egressa, 4 lineas longa, a basi ad geniculum purpureo-fusca.

13. ANDROPOGON. *N. ab E.*—Andropogonis spec. *Linn.*

1. A. (Trachypogon) *punctatus;* spicis paniculatis, rhachi ciliata infra spiculas barbulata, spiculis margine ciliatis, utraque supra medium dorsum foveola profunda poriformi (in spicula pedicellata sæpe obsoleta) impressa, culmo basi ramoso nodis subbarbatis, foliis vaginisque glabris laminave supra ad basin pilosa. *Roxb. Fl. Ind.* 1. *p.* 264; (*ed. Wall.*) 1. *p.* 268. *Roem. et Sch. Mant.* 2. *p.* 450. *Trin. in Act. Petrop.* 7. *p.* 287; *Ic. Gram. t.* 328.

2. A. (Trachypogon) *Bladhii ;* spicis in apice culmi subfasciculatis approximatis (6-8), rhachi ciliata barbataque, spiculis lanceolatis basi margineque superius strigilloso-villosis, gluma infera 6-nervi apice extremo enervi membranaceo angusto denticulato imperforata, seta terminali spicula plus duplo longiori, culmo basi repente ramoso apice adscendente geniculis infractis, nodis appresso-barbatis, vaginis ore barbatis, foliis angustis pilosis. *Retz, Obs.* 2. *p.* 27. *Willd. Sp. Pl.* 4. *p.* 920. *Roem. et Sch. Syst. Veg.* 2. *p.* 821. *Kunth, En.* 1. *p.* 498.—A. scandens. *Roxb. Fl. Ind.* 1. *p.* 258 ; (*ed. Wall.*) 1. *p.* 263. *Kunth, l. c.*

Hab. China. Prope Macao et in insulis adjacentibus, Majo, 1829 ; *G. H. Vachell, n.* 51.

Ab *A. annulato* (seu *A. Ischæmo,* Roxb.) cui proxime accedit, differt : foliis angustioribus pilosis, nodis culmi non pilis patentibus reflexisve sed mollioribus brevibus adpressisque cinctis, spicis brevioribus longius pedunculatis, spiculis minoribus, 1½-1¾ lineas longis, quæ illi 2½ lin. longæ, gluma inferiori 6-nec 8-nervi, basi margineque pilis brevioribus vestita. Reliqua omnino ut in *A. annulato.* Ab *A. obtuso,* N. ab E. (qui *A. Bladhii,* Roxb.) longius distat glumis nec multinerviis nec apice, ut in illo, obtusatis, tum vero et spicis in rhachi brevi approximatis, racemum abbreviatum fasciculi formem basi sæpe vagina involutum exhibentibus nec longiori tractu in culmi parte superiori dispositis.

3. A. (Trachypogon) *Vachellii ;* spicis verticillatis pedunculatis, pedunculis 1-2-stachyis, axillis barbatis, rhachi pedicellisque ciliolatis ad genicula longius barbatis, spiculis lanceolatis, gluma inferiori apice 6-8-nervia imperforata basi hirta, valvula inferiori flosculi fertilis e basi lineari setigera, seta spicula multo longiori, [culmo infra nodos adpresse barbatos hinc canaliculato,] folio supremo convoluto-setaceo brevi scabro, ore vaginæ barbato. *N. ab E. in Herb. Lindl.* [β, *perfectior ;* paniculæ ramis subverticillatis patulis flexuosis, inferioribus ramosis ramulis 1-2-stachyis, superioribus alternatim 8-2-stachyis. —A. montanus. *Roxb.? Fl. Ind.* 1. *p.* 267 ; (*ed. Wall.*) 1. *p.* 271 ; *in Cœt. Merc. Angl. Ind. Or. Mus. tab.* 889.]

Hab. In vicinia urbis Macao Imperii Chinensis et in insulis adjacentibus ; *Millett ; G. H. Vachell, n* 50.

Summitas culmi circiter pedalis, crassitie pennæ columbinæ, teres, lævis, glabra, sub inflorescentia nuda. *Vagina* suprema longa, convoluta, glabra. *Folia* summa 3-12 lineas longa ; [penultima, in β tantummodo nobis obvia, 4-6 pollices longa, 2-3 lin. lata, linearia, plana, acuminata, utrinque margineque aspera, supra ad basin piloso-barbata]. *Inflorescentia* 6 pollices longa, oblonga ; *rami* quini, quaterni, terni, bini, sparsi denique erecti, ad axillas barbati, hinc ad 4 lineas simplices, glabri, mono-distachyi, spicis erectis, 1-1¼ pollices longis, geminarum altera breviore : [in β, inflorescentia paniculata conico-oblonga ; ramis ut supra descriptis, inferioribus 1½-2½ pollices longis ; spicis 8-16 lineas longis, quandoque apice abortivis vel cito cassis brevioribusque, patulis ; axillis ramorum ut in α]. *Rhachis* angusta, recta, ad angulos pilis erectis ciliolata, hinc ad insertiones spicularum altero latere barbula pilorum aliquot longiorum instructa. *Pedicellus* spiculæ sterilis articulo conformis, fertilem spiculam æquans. *Spiculæ* 1½ lineas longæ. *Gluma inferior spiculæ* sessilis in medio canaliculata, basi lævis pilisque brevibus erectis vestita, in inferioribus quandoque glabra, sursum 6-8-nervis, nervis medio tenuioribus, margine scabra, apice angusta bidenticulata nec membranacea ; *superior gluma* carinata, tenuior, acuta, margine fimbriolata. *Flosculi neutrius* valvula una, lanceolata, ciliolata, mutica ; *fertilis* unam tantum vidi lineari-angustam, apice toto transeunte in setam 7-8 lineas longam tenuem scabram tortilem basi rufam. *Stamina* tria ; *antheræ* fulvæ. *Stigmata* purpurea. *Spiculæ pedicellatæ* gluma inferior plana, 8-10-nervis, purpurascens ; superior minor : flosculi non nisi inferioris valvula adest.

[The plant which we have joined as var. β, to that described by Nees von Esenbeck, differs from it in no respect except in the more branched inflorescence: the structure of the spikelets being identical in both. On the other hand, we see few grounds for separating the more luxuriant or more perfect form, and which is by far the most abundant in our collection, from *A. montanus*, Roxb.; Roxburgh, however, describes the leaves as "long and narrow," and figures even the uppermost one close to the panicle, and 6 or 8 inches long, while in our plant it is very short and subulate; Roxburgh, moreover, does say that the lower glume of the fertile spikelet is channelled on the back, which could scarcely have escaped the notice of N. von Esenbeck. Var. α has much the appearance of *A. leptostachys*, Wight and Arn., (or *A. saccharoides*, Roxb., and *n.* 890 of his drawings at the India House), but in that also the uppermost leaf is elongated and similar to the lower ones, and the branches of the inflorescence seem constantly alternate, simple, and bearing a single slender spike that is fully more than an inch and a half long. We have received both α and β from Prof. Henslow, under *n.* 50 of Mr. Vachell's collection; Mr. Millett has only sent the var. β.]

4. A. (Cymbopogon) *hamatulus;* culmo ramoso alto farcto nodisque lævi, foliis linearibus filiformi-acuminatis margine scabris vaginisque glabris, ligula rotundata, spicis geminis brevibus paucifloris fasciculato-paniculatis reflexis, paniculæ ramis racemosis strictis, pedunculis geminis bractea brevioribus, rhachi pedicellisque albo-hirsutis, spiculis glabris oblongo-lanceolatis, fertilis gluma inferiori 4-6-nervi apicem versus marginata, seta glabra flexuosa spicula duplo longiore gracili, laciniis valvulæ linearibus.

Hab. Prope Macao; *Herb. Lindl.*—"Danes island," 12 mill. infra Cantonem; *G. H. Vachell, n.* 41. *b.*

Differt ab *A. Schænantho* spiculis duplo minoribus. Ab *A. pachnode*, Trin., non solum spiculis paullo minoribus 1½ lin. vix longis, sed etiam gluma inferiori spiculæ fertilis distincte 4-5-6-nervi et seta multo breviori, gracili, valde flexuosa, 3½ lineas longa, tum foliis angustioribus et ligula breviori. *Bracteæ* purpurascentes; communis pedunculos binos breves distachyos promens. *Spicæ* vix 3-4 lineas longæ. *Spiculæ* virides, structuræ omnino ut in *A. Schænantho.*—*Rami* 1-2 axillares erecti, vaginati, vaginis ramulos breves fasciculatos (geminos) alios simplices pedunculos exhibentes, alios compositos bracteis bi-distachyis præditos promentibus, unde ramus paniculæ singulos racemum angustum exhibet.

5. A. (Cymbopogon) *cæsius;* culmo procumbente erectove ramoso nodis foliisque lineari-acuminatis cæsio-glaucis lævibus et glabris, spicis geminis fasciculato-paniculatis bracteatis bracteis spicas æquantibus, rhachi pedicellisque albo-hirsutis, spicula fertili oblongo-lanceolata, gluma inferiori 2-4-nervi margine superiori carina albo-membranacea serrulata, valvula fertili bifida laciniis filiformibus, mascula pedicellata mutica, gluma inferiori octonervi acuta, pedicello crasso.—α; gluma binervi. *N. ab E. in Wight Cat. n.* 1700.—β; gluma quadrinervi. *N. ab E. l. c., n.* 1700. *b.*—γ; elatior, culmo erecto firmo. *N. ab E. l. c., n.* 1700. *c.*

Hab. α et β, in vicinia urbis Macao, et in insulis adjectis; *Millett*; *G. H. Vachell, n.* 41. *a.*

Probabiliter hic est *A. hirtus* Indiæ orientalis, de quo verba facit Thunbergius in Fl. Capensi. Differt culmo plerumque diffuso cum vaginis foliisque lævissimo, his brevioribus, 2-3 pollices longis, acuminatissimis, bracteis lævibus, spicis brevioribus, spiculis glabris, solisque pedicellis rhachique albo-hirsutis. *Spiculæ* lanceolatæ, virides. *Flosculus neuter* in spicula, tam mascula quam fertili, univalvis, conspicuus, glumis paullo brevior, valvula lanceolata acuta ciliata. *Valvula flosculi hermaphroditi* linearis, ad ⅓ bifida, laciniis filiformibus, e sinu emittens setam spicula plus duplo longiorem scabram; superior valvula deest. *Lodiculæ* truncatæ, bidentatæ, complicatæ, genitalia amplectuntur. *Stamina* 3, antheris sordide luteis. *Stigmata* lutea. *Spiculæ masculæ flosculus* perfectus evalvis, lodiculis valvularum vices gerentibus. *Gluma spiculæ sessilis* inferior apicem versus quadrinervis, apice bidentata, latere inflexa et in carina sursum ala membranacea prædita, superior gluma autem in carina dorsali media. *Glumæ spiculæ pedicellatæ* angustiores nec breviores, nec versus apicem marginatæ.

[We fear that the difference between these varieties is not constant: we have observed on the same panicle some glumes with four nerves, others where the middle pair had coalesced into one in the centre, and others where the two lateral ones had merged into the margin; so that the glumes might be said to be either 2-, 3-, or 4-nerved: the smaller the specimen, the more decidedly were the glumes only 2-nerved.]

14. ANTHISTIRIA. *Retz; Trin.; Gærtn.*

Spiculæ heterogamæ, in fasciculos simplices aut bi-trifidos dispositæ. Quatuor verticillatæ, masculæ vel neutræ, sessiles vel brevipedicellatæ, in quarum centro una hemi-ologama hermaphrodita, sessilis vel subsessilis, adjectis neutris masculisve geminis longius pedicellatis, saltemve earum pedicellis sterilibus, ex quo numerus primarius septenarius singuli flosculi oritur; ubi autem alter pedicellus hermaphroditæ adjectorum alteram fert spiculam femineam neutris vel masculis geminis stipatam, novem numeramus in fasciculo spiculas, sc. neutras masculasve 7, et hermaphroditas duas. In una specie spica adest simplex, dimera, ex duabus conjunctionibus spicularum exstructa, quarum inferior spiculam unam exhibet fertilem sessilemque setigeram, alteram neutram aut masculam muticam, superior simili ratione vel unam vel binas pedicellatas masculasque femineæ uni consociatas. Spicularum structura omnino *Andropogonum* e subgenere *Trachypogonis*. Habitus *Andropogonum* e subg. *Cymbopogonis;* a quibus *Anthistiria* non charactere spicularum, sed inflorescentia distinguitur, quam si sensu latiori intelliges omnesque species, vaginata inflorescentia gaudentes, hoc solo charactere, neglecta positione verticillari, *Anthistiriarum* communi nomine appellabis, naturali dispositione melius consules. Constat fasciculus primitivus *Anthistiriæ* e ramulo paniculæ bifido, cujus ramuli singuli, pro more, spiculam hemiologamam hermaphroditam unam, cum binis incompletis sustinent. Abortientibus autem binis lateralibus fertilibus, restat quadriga spicularum sterilium cum intermedio fertili binis sterilibus stipata. Ponas autem singulam triadem, ut in fasciculo enneastachyo videmus, ab altero latere spiculam singulam sterilem ab altero autem fertilem cum suis sterilibus stipantibus proferre, et tum vero habebis spicam, abortu naturali in illam tetrastachyam *Andropogonis (Cymb.) nani* abeuntem. Sunt igitur ejusmodi fasciculi revera spicæ tres digitatæ, ad exilissimum partium numerum redactæ; aut, si omnes in spicam unam coalescere posse fingis, spica tribus aut quatuor paribus constans.

1. A. *caudata;* culmo erecto ramoso, foliis linearibus longissime attenuato-acuminatis glabris margine serrulato-scabris, summis ad basin subciliatis, fasciculis erectis solitariis 9-floris, bracteis glabris, glumis neutris masculisve longissime acuminatis apice hirsuto-ciliatis obsolete tuberculatis, spicula fertili oblongo-cylindracea dense strigosa 3 lin. longa, seta valida sericeo-scabra. *N. ab E. in Herb. Lindl.*

HAB. Prope Macao et in vicinis insulis; *G. H. Vachell, n.* 46 (ex parte).

Ab *A. villosa,* Lam., differt statura minore et seta longa ($1\frac{1}{2}$-$1\frac{3}{4}$ poll.) Quæ sola comparanda, *A. tortilis* Presl, spiculis in singulo fasciculo pluribus (14), et glumis glabris differt. Ab *A. ciliata* recedit glumis masculis longius acuminatis, pilis tuberculis parum conspicuis insectis, et fasciculis solitariis minoribus plurifloris. Valvula flosculi fertilis inferior lineari-angusta, in setam transiens, *Anthistiriæ;* fasciculi novemflori et spiculæ steriles bifloræ (masc. aut neut.) *Androscepiæ*, ut itaque medium teneat inter genera ista hæc species, —*Perobachne,* Presl, (*Anth. villosa,* Lam.) *Androscepia* est seta brevissima instructa. Igitur tria hæc genera in unum rursus revocanda sunt.

15. APLUDA. *Linn.*

1. A. *geniculata ;* spicularum fasciculis per intervalla confertis, bracteis ovatis subulato-mucronatis [vel oblongis sub cuspide subulato bidentatis] spiculisque muticis glabris, spicula sessili pedicellataque altera (aut utrisque) polygamis, valvulis nudis glabris. *Roxb. Fl. Ind.* 1. *p.* 325. (*ed. Wall.*) 1. *p.* 327 ; *in Cæt. Merc. Angl. Ind. Or. Mus. tab.* 1939 *(fide Arn.)—Kunth, En.* 1. *p.* 517.—A. humilis. *Kunth, l. c.*—Calamina humilis. *Presl, Rel. Hænk.* 1. *p.* 344.

Hab. Ad Macao et in vicinis insulis, Danorum dictis ; *Millett ; G. H. Vachell. n.* 42.

Similis *A. microstachyæ,* sed distincta a valvula flosculi fertilis spicæ sessilis omnino mutica cymbiformi acuta. *Bractea* apice integro abit in subulam [vel sæpius utrinque ad cuspidis basin unidenticulata]. *Gluma* primaria apice integra. *Spicularum pedicellatarum* altera sæpe abortiva, altera biflora, flosculo inferiori masculo, superiori abortu femineo. An revera differat ista species ab *A. mutico,* Linn., merito dubitabis.—Exempla Javanica hujus graminis differunt fasciculis distantibus valvulisque ciliatis, quæ nescio an diversæ sint speciei.

Subtrib. III. ISCHÆMEÆ.

16. MEOSCHIUM. *P. de Beauv.*

1. M. *lodiculare ;* spiculæ sessilis gluma inferiori basin versus hirsuta utrinque quadrinodulosa, pedicellatæ flosculo fertili submutico, lodiculis flosculi masculi linearibus bidentatis elongatis [minutis truncatis atque illis flosc. hermaph. omnino conformibus in omnibus nostris exemplis], foliis linearibus utrinque attenuatis subtus pubescenti-scabris, ligula rigida ovata. *N. ab E. in Herb. Lindl.*

Hab. In vicinia Macao urbis inque insulis adjectis ; *Meyen ; Millett ; G. H. Vachell, n.* 47. *b.*

Culmus [teretiusculus, basi decumbens, ramosus, hinc infra nodos altero latere canaliculatus], glaber, sub spicis longe exsertus : *genicula* adpresso-barbata. *Vagina* suprema longa, striata, glabra, sursum attenuata et dehiscens ; [inferiores hirsutæ.] *Ligula* erecta, fusca, rigidula, incisa. *Lamina* sex pollices longa, 2 lin. lata, plana, acuminata, basi angustior, supra nervosa, subtus pubescentia subtili rigidula conspersa, basi magis pubescens : [foliorum inferiorum longior.] *Spicæ* geminæ, erectæ, quadripollicares. *Articuli rhacheos* trigoni, angulo exteriori toto, reliquis circa apicem, ciliatis ; latere altero, spiculæ pedicellatæ objecto, concavo. *Pedicellus* spiculæ alterius longitudine dimidii articuli, compressus, utrinque ciliatus. *Spiculæ* oblongo-ovales, conformes, 3 lineas longæ. *Gluma inferior* oblique oblonga, subcoriacea, plana, obtusiuscula vel (in spicula pedicellata) bifida, a basi ad medium villis erectis canescens et in spicula sessili, utrinque serie tuberculorum quaternorum obsita, utrinque nervo crassiori geminato et in parte media tenuiorique nervis octo tenuioribus per intervalla transversim anastomosantibus prædita ; superior acuta, acute carinata, uninervis, margine ciliata. *Flosculi* in utraque spicula conformes, texturæ satis firmæ membranaceæ, demum incarnati, *inferior* masculus ; valvulæ æquales, lanceolatæ, acutæ, planæ, dorso depressæ, ciliatæ, muticæ : inferior uninervis, superior binervis, ad latera inflexa. Lodiculæ duæ, valvulis vix $\frac{1}{4}$ breviores, lineares, membranaceæ, apice bidenticulatæ, longitudine filamentorum : [huc tamen N. ab Esenbeckius in errorem haud levem illabi nobis videtur, de quo plura infra.] *Stamina* tria ; [*antheræ* luteæ.] *Flosculus superior* hermaphroditus, aut hermaphrodito-femineus ; valvula inferior in spicula sessili oblonga, ad medium bifida, laciniis linearibus obtusiusculis e dorso ad basin incisuræ emittens setam 6 lineas longam læviusculam ad medium fuscam tortamque, hinc reflexam et ad apicem usque pallidam ; color valvulæ inferius rufescens, apicis albus ; valvula superior longitudine fere inferioris, at multo angustior, lanceolato-linearis, obtusiuscula, alba, parum ciliata basi ovarium arcte amplectens. *Lodiculæ* ovarii longitudine, subquadratæ, sinu lunari emarginatæ angulis acutis, membranaceæ. *Stamina* tria, jam perfecta, jam castrata. *Ovarium* oblongum; *styli* distincti, graciles; *stigmata* aspergilliformia, purpurea, demum subfusca. Idem flosculus in spicula pedicellata ejusdem est structuræ et indolis, eo autem differens, quod valvula inferior fere integra est et inter duos denticulos minutos apicis mucronulum brevissimum setaceum, quandoque et nullum omnino, emittit.

[Our specimens from Mr. Millett, and those in Prof. Henslow's herbarium from Mr. Vachell, now lying before us, some of which were examined by Nees v. Esenbeck, agree with the above description in every particular, except that the lodicules of the male floret are actually as small as, and precisely similar to, those of the bisexual one: in both they are somewhat cuneate and truncated, and not longer than the ovary. We are therefore disposed to suspect some error of observation in those parts from which the specific name has been derived; nor can we readily account for it unless on the supposition that, while dissecting the flower, the inflexed margins of one of the valvelets had been in part or wholly separated and supposed to be the lodicules.]

TRIB. IV. OLYREÆ.

17. SPINIFEX. *Linn.*

1. S. *squarrosus;* bracteis apice subulatis longis, foliis involucrisque flabellatis convoluto-subulatis lævibus, vaginis latis ore truncatis dense ciliatis, flosculis muticis, rhacheos utriusque sexus acumine scaberrimo. *Linn. Mant. p.* 300. *Willd. Sp. Pl.* 4. *p.* 1129. *Kunth, En.* 1. *p.* 135.—Stipa spinifex. *Linn. Mant. p.* 34.—Ily mullu. *Rheed. Hort. Mal.* 12. *t.* 75. (*masc.*)—Cyperus littoreus. *Rumph. Herb. Amb.* 6. *p.* 6. *t.* 2. *f,* 2.

HAB. Prope Macao et in insulis vicinis; *G. H. Vachell, n.* 32, *a* (forma junior), *b* (fem.), et 33 (masc.).

Globi florales pugno majores; rhaches femineæ prælongæ (5-6 pollicares); acumen spicæ masculæ 3-6-floræ ½-¾ pollicis longum. *Gluma* inferior major superiore 7-nervis, superior 5-nervis; utraque ovata. *Valvulæ* flosculorum oblongæ, acuminatæ, æquales, omnium tam masc. quam fem. chartaceæ; inferior 5-nervis; superior binervis acumine bidente. Singulare, quod *lodiculæ* a valvula superiori excludantur. *Antheræ* violaceæ.

[18. ZEA. *Linn.*

1. Z. *Mays. Linn. Sp. Pl. p.* 1378. *Willd. Sp. Pl.* 4. *p.* 200; *N. ab E. Agrost. Bras. p.* 311.—Zea Mays. *Mill. Dict.*—Mays Zea. *Gærtn. Fr.* 1. *p.* 6. *t.* 1. *f.* 9.

HAB. Culta circa Macao; *Millett.*]

TRIB. V. PEROTIDEÆ.

19. PEROTIS. *Ait.; Brown.*

Inter genera cognita, huic maxime affinis est, præsertim quod ad habitum attinet, *Holboellia,* Hook. in Bot. Misc. v. 2. p. 144. t. 76., gramen propter glumarum formam maxime memorabile.

1. P. *longiflora;* spiculis fructiferis patentibus pedicellatis lineari-lanceolatis in setam excurrentibus, flosculi valvulis inæqualibus, inferiori mucronata trinervi.—*N. ab E. in Herb. Lindl.*

HAB. Ad Macao et in vicinis insulis; *Millett; G. H. Vachell, n.* 38.

Similis omnino *P. patulæ* (seu *P. latifoliæ* Ait. at minime tam species est latifolia quam *P. hordeiformis,* N. ab E. in Herb. Royle, e Mont. Himalayis, n. 280), sed differt spiculis duplo fere majoribus, 2 lineas, et cum seta majori 9 lineas longis, minus divaricatis, tum glumis magis adhuc lenissimeque in setam acutatis pro longitudine angustioribus. *Flosculus* glumis triplo brevior; valvula inferior membranacea, satis firma, trinervis, ovato-lanceolata, in acumen mucroniforme producta; superior brevior, linearis, apice bidentata. *Stamina* tria, antheris luteis. *Stigmata* purpurea. *Glumæ* scabræ, cum setis suis pallidæ. *Folia* rigidula, densa, glauca, margine basin versus calloso-denticulata ciliataque.—Species duæ aliæ sic distinguendæ:—P. *hordeiformis;* spiculis fructiferis florentibus erectis subsessilibus, valvulis flosculi æqualibus.—P. *patula;* spiculis fructiferis patentissimis pedicellatis, valvulis flosculi inæqualibus.

[With *P. hordeiformis* we are unacquainted. Between *P. latifolia* (for we are still inclined to retain that name instead of *patula*) and *P. longiflora*, there are some obvious differences in the foliage: in both the leaves are of the same general shape; but in *P. latifolia* they are waved, and have a cartilaginous discoloured (in our specimens) margin, which is armed with rigid, close, sometimes bristle-bearing teeth, from the base to near the apex: in *P. longiflora*, they are flat or involute towards the apex, decidedly glaucous, and the margin toothed only near the base. In *P. latifolia* the sheaths are strongly striated; in *P. longiflora*, scarcely at all. In *P. latifolia* the leaves are scattered at equal distances on the lower half of the culm; in our specimens of *P. longiflora* they are crowded for about one-fourth from the root; but as in both the two upper leaves are remote, we are disposed to regard the approximation of the lower ones as the effect of a greater or less development of the whole plant.]

TRIB. VI. AGROSTIDEÆ.

20. VILFA. *Adans.*—SPOROBOLUS. *R. Br.*

1. V. *elongata, N. ab E.*—Var. panicula sesquipedali strictissima valde attenuata, spiculis albicantibus.

HAB. Ad Macao et in insulis vicinis; *Millett; G. H. Vachell, n.* 53.

[Athough our friend has not sent the specific character, we presume he here means *V. elongata*, Trin. unifl. p. 154, or *Sporobolus elongatus*, Brown: but our specimens do not altogether agree with Brown's observations, in as far as he states the branches of the panicle to be alternate and the lower ones distant; whereas here they are more or less fascicled or verticillate, and the lower ones are not more remote than in *V. tenacissima:* the glumes are ovate, the upper one between twice and thrice, and the lower nearly four times shorter than the floret. The leaves are convolute. On the whole, therefore, we do not see why our plant ought not to be rather referred to *V. tenacissima*, Humb. and Kunth; perhaps, however, as Trinius says, *V. elongata* is too closely allied to it. In both, the branches of the panicle are floriferous from their very base or nearly so.

TRIB. VII. ARUNDINEÆ.

21. ARUNDO. *Linn. N. ab E.*

1. [A. *Henslowiana;* culmo tenui foliisque convoluto-subulatis glabris, vaginis glabris ore barbatis, panicula subcontracta oblonga ramis fasciculatis compositis gracilibus, spiculis 5-7-floris, glumis spicula duplo brevioribus subulata acutatis, flosculis patulis, valvula inferiori dorso glabra versus marginem longe lanata, seta recurvo-patula flosculo fere duplo breviore.

HAB. In Insula "Danorum" dicta, infra Cantonem; *G. H. Vachell, in Herb. Henslow, n.* "U."

Panicula (in exemplo unico tantum nobis obvio) tripollicaris. *Valvula* flosculorum *inferior* apice bifida, inter lobos subulatos breves setam proferens.

[This is probably the same as Nees von Esenbeck has observed a fragment of among Prof. Royle's plants (*n.* 81.) from the north of Bengal, and which he has in his MSS. designated "*Arundinis* (*Donacis*, Beauv.) species *Madagascariensi*, Kunth, seu *Donaci Thouarsii*, Beauv. affinis." Indeed, so far as the description goes, which he has kindly communicated to us, the two appear identical.]

TRIB. VIII. CHLORIDEÆ.—CHLORIDEÆ *et* PAPPOPHOREÆ. *Kunth.*

22. LEPTOCHLOA. *P. de Beauv.*

1. L. *filiformis;* spiculis subsessilibus 2-3-floris muticis, glumis scabris, spicis partialibus filiformibus patulis, inferioribus oppositis aut subverticillatis, reliquis alternis, vaginis e tuberculis pilosis. *Roem. et Schult. Syst. Veg.* 2. *p.* 580. *Kunth, En.* 1. *p.* 270. —Eleusine filiformis. *Jacq. Ecl. Gr. t.* 4.—Poa virgata. *Roth, Nov. Pl. Sp. p.* 66.—β; humilior. *Kunth, l. c.*

HAB. β, Circa Macao, et in insulis vicinis; *Millett; G. H. Vachell, n.* 58.

2. L. *chinensis;* spiculis pedicellatis patulis 5-6-floris muticis adpresso-puberulis subciliatis, glumis scabris, racemis filiformibus laxis sparsis approximatimque verticillatis, vaginis compressis foliisque glaucis scabris, culmo basi repente. *N. ab E. in Syll. Ratisb.* (1822) 1. *p.* 5. *Roem. et Sch. Mant.* 2. *p.* 309.—Poa chinensis. *Roxb. Fl. Ind.* 1. *p.* 332; (*ed. Wall.*) 1. *p.* 333.—P. malabarica. *Linn. Sp. Pl. p.* 100 (excl. syn. *Burm.*).—β; culmo erecto racemoque strictioribus, spiculis purpureo-variegatis.—P. chinensis. *Roth, Nov. Pl. Sp. p.* 65.—γ; laxa, culmo humiliore, racemi ramis patulis laxis, spiculis ut in β sed fere omnino glabris.

HAB. Circa Macao; *Millett.*

Spicularum pedicello licet brevi, flosculorum numero et pubescentia magis minusve conspicua, foliorum glaucedine, satis distincta species. *Rhachilla* spicularum gracilis et flexilis, ubi flectitur flosculos separatos et veluti pedicellatos ostendit, qui quidem minime eam ob causam "pedicellati" cum Rothio appellandi sunt, cum pedicellus, quem diceres, non inter singulum flosculum et rhachillam positus sit, sed inter flosculum quemque inferiorem proximeque superiorem.

23. ELEUSINE. *Gærtn.*

1. E. *Indica;* culmo compresso basi sæpe repente ramoso, vaginis ore sæpiusque et margine villosis, spicis rectis strictis, rhachi angusta æquali, spiculis subsexfloris, semine ovali. *Gærtn. de Fr.* 1. *p.* 8. *t.* 1. *N. ab E. Agr. Bras. p.* 439 (*cum syn.*) *Roxb. Fl. Ind.* 1. *p.* 345; (*ed. Wall.*) 1. *p.* 346. *Kunth, En.* 1. *p.* 272. *Trin. Ic. Gr. t.* 71.—β; *depauperata;* spicis 3, spiculis 3-4-floris, culmo humili. *Kunth, l. c.*—γ; *macrostachya;* spicis longis apice abortu spicularum attenuatis magis corymbosis quam digitatis, foliis culmo multo brevioribus.

HAB. Ad Macao et in insulis vicinis; *Millett; G. H. Vachell, n.* "W" et "X" (ex parte).

2. E. *Coracana;* culmo erecto compresso simplici, vaginis ore barbatis, spicis latis demum incurvis, rhachi margine dilatata ætate repanda, spiculis subsexfloris dilatatis

confertissimis, semine subgloboso subtiliter ruguloso. *Gærtn. de Fruct.* 1. *p.* 8. *t.* 1. *f.* 11. *Kunth, En.* 1. *p.* 273. *Trin. Ic. Gr. t.* 70. *Roxb. Fl. Ind.* 1. *p.* 342; (*ed. Wall.*) 1. *p.* 343.—Isjetti-pullu. *Rheed. Hort. Mal.* 12. *t.* 78.—β, *stricta;* spicis strictis.—E. stricta. *Roxb. l. c. p.* 343; (*ed. Wall.*) 1. *p.* 344.—γ, *pumila;* vix digitalis. *N. ab E. in Herb. Royle, n.* 369 (ex parte).

HAB. Ad Macao et in insulis adjacentibus; *Millett; G. H. Vachell, n.* "H."

Simillima præcedenti, e qua, præter characteres adnotatos et habitum proprium parum differt. *Gluma* superior quandoque dorso 5-nervis; etiam valvula inferior 5-nervis occurrit.

24. DACTYLOCTENIUM. *P. de Beauv.*

1. D. *mucronatum. Willd. En.* 2. *p.* 1029. *N. ab E. Agr. Bras. p.* 436, (cum synonymia completa).—Eleusine Ægyptiaca. *Roxb. Fl. Ind.* 1. *p.* 344; (*ed. Wall.*) 1. *p.* 345.—α, *Ægyptiacum.*—D. Ægyptiacum. *Kunth, En.* 1. *p.* 261.—β, *repens;* valde ciliatum, spicis 1-3 erectis vel patentibus, rhachi inter spiculas patenti-ciliata.—D. prostratum. *Willd. En.* 2. *p.* 1029. *Kunth, En.* 1. *p.* 261. *Link, Hort. Ber.* 1. *p.* 59.—Eleusine prostrata. *Spr. Syst. Veg.* 1. *p.* 350.

HAB. Ad Macao, in insula Lappas, et in aliis vicinis; *Millett; G. H. Vachell, n.* 73. *b.* (ex parte).

D. aristatum, Link, non minus ac reliquæ hujusce est varietas. Restat igitur solum *D. radulans,* P. Beauv., seu *Eleusine radulans,* Brown, jure suo ut species propria vindicandum.

[We have before us, from Mr. Millett, two forms of this plant, both belonging to α; one is smaller than the other, with roots from the joints, and the leaves and sheaths shortly hairy and ciliated; this may prove to be *D. aristatum,* Link. The other is more robust, the ascending portion of the culm being about a foot high, and the spikes almost an inch and a half long, and thick in proportion; the leaves are very scabrous on the margin, and more or less bearded at the mouth of the sheath, but are otherwise, as well as the sheath itself, glabrous: the lower part of the culm forms a very remarkable branched prostrate densely leafy rhizoma one to two feet in length. The spikelets are sometimes pubescent, sometimes glabrous and shining: but all these variations, as well as var. β, seem to depend much on the localities in which they are found, and not to be permanent.]

25. CHLORIS. *Linn.*

1. C. *barbata;* culmo ramoso compresso, foliis acutis basi et margine infero vaginisque collo stricte pilosis, spicis digitatis (4-15), spiculis imbricatis, gluma superiore lanceolata integra nervo mucronulata flosculum hermaphroditum dimidiato-obovatum superne villoso-ciliatum æquante, flosculis neutris binis truncatis setigeris glabris, setis omnibus æqualibus. *Swartz, Fl. Ind. Occ.* 1. *p.* 200. *N. ab E. Agr. Bras. p.* 421. (cum synon.) *Roxb. Fl. Ind.* 1. *p.* 329; (*ed. Wall.*) 1. *p.* 331. *Jacq. Ecl. Gr.* 1. *p.* 8. *Kunth, En.* 1. *p.* 264.—Andropogon barbatus. *Linn.*—Konda pulla. *Rheed. Hort. Mal.* 12. *t.* 51. *f.* 3.

HAB. Prope Macao; *Millett.*

Trib. IX. FESTUCEÆ.

26. ERAGROSTIS. *P. de Beauv.*

§ 1. Caudatæ: *rami paniculæ elongatæ breves, fasciculiformes.*

1. E. *cylindrica. N. ab E.*—Poa cylindrica. *Roxb. Fl. Ind.* 1. *p.* 334; (*ed. Wall.*) 1. *p.* 335. *Kunth, En.* 1. *p.* 345.—Megastachya cylindrica. *Schult. Mant.* 2. *p.* 328.

Hab. Circa Macao urbem; *Millett.* In insula "Danorum" dicta, 12 mill. infra Cantonem; *G. H. Vachell, n.* 56.

Exemplum nostrum, a Vachellio lectum, fructu delapso jam ramulis paniculæ gaudet paullo magis patulis, valvulisque interioribus, ut in *E. pectinacea* persistentibus rigidulis patulisque, sæpe subtrifidis. *Folia* linea latiora, attenuata, rigidula, lævia, glaucescentia, convoluta, circa os vaginæ barbata. *Paniculæ rami* in axillis scabridi. *Valvula inferior* trinervis, pallida.

[Our specimens from Mr. Millett are much less advanced: the panicle is very contracted, cylindrical, and composed of short, crowded, adpressed, compound, alternate branches, as described by Roxburgh. The spikelets are tinged with purple. The glumes and lower valvelet of the florets are minutely strigoso-pubescent, but otherwise glabrous and without ciliæ on the margin.]

§ 2. Megastachyæ; *paniculatæ, paniculæ ramis validiusculis, spiculis ovatis oblongis lanceolatisve, valvulis haud pellucidis.*

2. E. *amabilis;* panicula racemoso-composita patula erecta, ramis plerisque solitariis basi glabris prope a basi divisis circumscriptione lanceolata, pedicellis longiusculis, spiculis coloratis ovatis 16-24-floris, flosculis arcte imbricatis inferioribus deciduis, valvula inferiori late ovata acuta trinervi membranacea, caryopsi ovata, culmo ramoso adscendente nodisque glabris, ligula brevissima, foliis lanceolato-linearibus glaucis lævibus basi ciliatis. *Wight et Arn. in litt.; Wight Cat. n.* 1777.—Eragrostis. *Wall. Cat. n.* 3838.—Megastachya amabilis. *P. de Beauv.*—Poa amabilis. *Linn.*—*Willd. Sp. Pl.* 1. *p.* 392. *Kunth, En.* 1. *p.* 334. *Roxb. in Cæt. Merc. Angl. Ind. Or. Mus. tab.* 842 (fide *Arn.*)—P. uniloides. *Roxb. Fl. Ind.* 1. *p.* 339; (*ed. Wall.*) 1. *p.* 340. *Kunth, En.* 1. *p.* 335 (an *Retzii* ?)—P. rubens. *Lam. Ill. Gen. t.* 45. *f.* 2. *Kunth, l. c.*

Hab. In insula Lappas; *G. H. Vachell, n.* 55.

Gramen perelegans, spiculis brizoideis purpureo pallidoque variis.—In adumbranda *Poa* sua *uniloide* Retzius ante oculos habuisse videtur spiculam ex inferiore parte paniculæ paucifloram, cui glumæ jam delapsæ deficerent. Tum vero flosculorum duorum inferiorum inferiores valvulas glumas esse, sive calycem, existimanti, obstabant valvulæ utriusque flosculi superiores, quas nisi calycem alterum interioremque declararet, non habebat quibus explicaret.

3. E. *megastachya;* panicula racemoso-composita patente erecta, ramis inferioribus subverticillatis alternisque in axillis et ad ramificationes barbatis, reliquis omnibus alternis prope a basi divisis pedicellis brevibus, spiculis lineari-oblongis pallidis aut plumbeo-viridibus 15-25-floris, valvula inferiori obtusa subemarginata brevissime mucronata trinervi nervo laterali prominulo superiori ciliata, caryopsi globosa, culmo ramoso adscendente nodisque glabris, vaginis glabris ore barbatis, foliis lanceolato-linearibus margine serrulato-

scabris, radice fibrosa.—*Link, Hort. Berol.* 1. *p.* 185. *Wight, Cat. n.* 1778.—Eragrostis, *Wall. Cat. n.* 3828.—E. major, *Host, Gram.* 4. *t.* 24.—Poa megastachya. *Koel. Gr. p.* 181. *Mert. et Koch, Fl. Germ.* 1. *p.* 597. *Kunth, En.* 1. *p.* 333.—P. polymorpha. *Koen. ex Herb. Klein. Willd. in Act. Am. Nat. Cur.* 4. *p.* 194 (*ex parte*).—P. flexuosa. *Roxb. Fl. Ind.* 1. *p.* 339; (*ed. Wall.*) 1. *p.* 340.—P. pseudoamabilis. *Roxb. in Cæt. Merc. Ind. Or. Mus. tab.* 843 (fide *Arn.*).—P. Roxburghiana. *Schult. Mant.* 1. *p.* 314. *Kunth, En.* 1. *p.* 335.—P. cuspidata. *Roth, Nov. Sp. Pl. p.* 64, (ubi axillæ paniculæ fere aut omnino imberbes).

HAB. Ad Macao; *Millett.*

[Our Chinese specimens belong to the form which Roth has called *Poa cuspidata*, the axils of the panicle being almost naked; the panicle is large, as in Roxburgh's *P. flexuosa*, and like it some of the specimens have the lower branches alternate; others, however, have them somewhat verticillate. It sometimes happens in this species that the upper florets of the spikelet are abortive, when the spikelet is roundish-ovate as in *Poa annua.*]

4. [E. *Millettii;* panicula racemoso-composita patula erecta rigida, ramis alternis prope a basi divisis axillis nudis, pedicellis spiculam sæpius æquantibus rariusve in ramis compositis illa brevioribus, spiculis lineari-lanceolatis demum stramineis 8-16-floris laxe imbricatis, valvula inferiori ovata acutiuscula mutica subchartacea trinervi nervo laterali parum prominulo superiori margine scabra persistente, culmo simplici stricto basi dense folioso, foliis subdistichis patulis convoluto-subulatis vaginisque patentim hirsutis, radice fibrosa cæspitosa multiculmi.

HAB. Circa Macao, et in insulis vicinis; *Millett; G. H. Vachell, n.* 54.

This elegant and very remarkable species is readily distinguished from all others of the section with which we are acquainted, by its very hairy convolute leaves and sheaths. Unless by accident another plant has been mixed, this must be what Nees v. Esenbeck calls, in his MS. to Dr. Lindley, *E. Brownii;* at least what Prof. Henslow has sent to both of us from Mr. Vachell's collection, n. 54, is the present species: it is possible, however, that he might not have seen the foliage, for in that respect it differs widely from *E. Brownii* of Kunth, and of N. v. E. in Herb. Wight.]

5. E. *Willdenowiana;* panicula racemoso-composita patenti-erecta, ramis omnibus alternis, axillis glabris prope a basi divisis, pedicellis brevibus, spiculis lineari-lanceolatis cinerascenti-viridibus, rhachilla post anthesin flexuosa, valvula inferiori ovata obtusa mutica trinervi nervo laterali prominulo superiori ciliata persistente, caryopsi ovata trigona subtruncata striolata, culmo ramosissimo adscendente nodisque glabris, vaginis glabris ore barbatis, foliis linearibus margine scabris, radice fibrosa multiculmi. *N. ab E. in Wight, Cat. n.* 1779.—E. polymorpha. *Roem. et Sch. Syst. Veg.* 2. *p.* 575.—Poa polymorpha. *Willd. in Act. Am. Nat. Cur. Berol.* 4. *p.* 194 (*ex parte*). *Kunth, En. p.* 345.—P. Gangetica. *Roxb.? Fl. Ind.* 1. *p.* 340; (*ed. Wall.*) 1. *p.* 341.

HAB. Circa Macao; *Millett.*

Rhachilla, imprimis peracta anthesi, valde flexuosa, ramis etiam paniculæ flexuosis et caryopsi majore compresso-trigona obtusissima (postice modo concava, modo obtusata) facile distinguitur ab *E. Brownii,* Kunth;

ab *E. megastachya* distinguitur axillis paniculæ glabris callo flavo nec fusco præditis, ramis parcius divisis, apicem versus simplicibus, foliis angustioribus, caryopsi non globosa, spiculis angustioribus.—Vix dubium puto, Willdenowium cum *Poam* suam *polymorpham* describeret, tres modo nominatas species, *megastachyam* intelligas, *Brownii*, et hanc *Willdenowianam* nostram coram habuisse. Nomen igitur, neque hanc solam ob causam, mutandum erat.

6. E. *Brownii ;* panicula patula vel contracta erecta, ramis alternis strictis a medio vel paullo inferius divisis, axillis nudis, spiculis lineari-lanceolatis 10-20-floris glauco-viridibus, rhachilla recta denticulata, valvula inferiori ovata acutiuscula trinervi superiori minutim ciliata persistente, caryopsi oblonga striata, culmo ramoso nodisque glabris, vaginis ore barbatis, foliis angustis subinvolutis. *N. ab E. in Wight, Cat. n.* 1780.—Poa polymorpha. *R. Brown, Prod. Fl. Nov. Holl.* 1. *p.* 180.—P. Brownii. *Kunth, Gram.* 1. *p.* 112 ; *En.* 1. *p.* 333.

Hab. Ad Macao, et in insulis vicinis ; *G. H. Vachell, n.* 54.

Caryopsis forma et ramificatione paniculæ satis differre videtur ista species a *P. polymorpha*, Willd.

[We have retained this name as it is in N. v. Esenbeck's manuscript, and as we are informed both by Dr. Lindley and Prof. Henslow that it was part of Mr. Vachell's, n. 54, which was subjected to his inspection ; all the other specimens of that number, however, which we have seen, belong to our *E. Millettii*, nor have we ourselves yet seen a single plant of *E. Brownii* from China.]

§ 3. Tenellæ; *panicula capillari sæpe verticillata, spiculis angustis, valvulis plerumque tenuibus pellucidis.*

7. E. *verticillata ;* panicula patula, ramis capillaribus flexuosis, inferioribus verticillatis ad axillas magis minusve barbatis spatio a basi divisis, spiculis linearibus acutis 7-11-floris variegatis totisve purpuratis, gluma inferiori minuta, valvula inferiori membranacea obtusa trinervi nervis parum prominulis superiori breviori margine scabra, caryopsi obovata compressa læviuscula, culmo ramoso infracto, foliis linearibus vaginisque glabris, his ore sæpe barbatis. *P. de Beauv. N. ab E. Agrost. Bras. p.* 508 (cum synon.)—*γ, Indica ;* vaginis ore axillisque paniculæ valde barbatis, culmo ramosissimo. *N. ab E. l. c.*—Poa Indica. *Willd. in Act. Am. Nat. Cur. Berol.* 4. *p.* 194. *Roem. et Sch. Syst. Veg.* 2. *p.* 552. *Kunth, En.* 1. *p.* 263.

Hab. *γ*, Circa Macao, et in insula Lappas aliisque vicinis ; *Millett ; G. H. Vachell, n.* "*b.*"

Species magnitudine et colore spicularum variabilis, sed e spiculis angustis, ramis paniculæ gracillimis sæpe contortis, gluma inferiori duplo minore, caryopsi compressa, teneritate quadam et subtilitate partium bene distincta. *Poa punctata*, Linn. eadem planta esse videtur, cujus fors minorem pauperemque aliquam sobolem Roxburghius *punctatæ* titulo descripsit, cum ramificationes simplices dixit et spiculas remotiusculas. Si *Poa punctata*, Linn. eadem ac *verticillata*, Cav., nomen *punctatæ* restituendum est. Ab *E. tenella* differt spiculis angustioribus, ramis paniculæ gracilioribus magis diffusis, gluma inferiori minori, sed *Poam tenellam*, Roxb., nescio an rectius ad hanc *verticillatam* referam.

[With regard to Roxburgh's species, we may add to the above : that *P. diandra* (in E. I. C. Mus. tab. 1330) appears to be unquestionably the common form of this plant, or that where the axils of the panicle are scarcely or not at all beardless. His *P. punctata* (figured in E. I. C. Mus. tab. 839, under the name of *P. amabilis*) may be a form, but has the branches of the panicle truly simple, and the caryopsis oblong : if belonging to this species, it is a form of the same variety as *P. diandra*, Roxb. As to *P. tenella*, Roxb., or tab. 837 of the drawings in the India House, it certainly does not belong to *E. tenella*, P. Beauv., and bears much more resemblance to the present species; but it differs from both by all the branches of the panicle being short, and consequently with a habit nearly that of *E. Koenigii*, N. ab E., or *P. interrupta*, Roxb. We have hitherto seen no forms of *E. verticillata* that resemble either of the two last mentioned of Roxburgh.]

§ 4. Ciliares; *paniculatæ, aut paniculato-spicatæ, valvula superiori, omnibusve et valvulis et glumis ciliatis.*

8. E. *plumosa;* panicula decomposita patula, ramis alternis strictiusculis prope a basi fasciculato-divisis axillis longe barbatis, spiculis subsecundis cernuis lineari-oblongis 4-8-floris, valvula inferiori obtusa trinervi superiorem longe rigideque ciliatam æquante, culmo adscendente ramoso, foliis vaginisque glabris, his collo longe barbatis. *Link, Hort. Ber.* 1. *p.* 192. *N. ab E. in Agr. Bras. p.* 511 (cum syn. completa).—Poa plumosa. *Retz, Obs.* 4. *p.* 20. *Roxb. Fl. Ind.* 1. *p.* 337 (*ed Wall.*) 1. *p.* 338. *Kunth, En.* 1. *p.* 338. —P. capillaris. *Roxb. in Cæt. Merc. Angl. Ind. Or. Mus. tab.* 838 (fide *Arn.*).

Hab. Circa Macao et in insulis vicinis; *G. H. Vachell, n.* "*a.*"

Trib. X. BAMBUSACEÆ.

27. BAMBUSA. *Linn.*

1. [B. *verticillata;* culmo inermi? foliis lanceolatis attenuatis utrinque lævibus margine scabris basi rotundatis, vaginis glabris ore nudis, spicis e nodis superioribus culmi simplicibus patulis aphyllis vel apice ramulum foliosum brevem proferentibus, spiculis sub-8-floris ovato-oblongis acutis erectiusculis aggregato-subternis, glomerulis equidistantibus subapproximatis, glumis subquaternis superiori apicem versus leviter carinulata, flosculis omnibus præter 2-3 inferiores neutros hermaphroditis, valvula inferiori læviuscula orbiculato-ovata mucronata glabriuscula margine superiori versus breviter ciliata, superiori minore multoque angustiore pubescente ciliata, stylo longo villoso apice 3-fido. —B. verticillata. *N. ab E. in Agr. Bras. p.* 534? (vix *Willd.*) *Schult. Syst. Veg.* 7. *p.* 1346 (sub obs. 2, descr. opt.).—B. nana. *Roxb. Fl. Ind.* 2. *p.* 199? (quæ *fruticosa inermis*, nec fusius descripta).

Hab. Circa Macao; *Millett.*

Our specimens agree in every respect with Schultes' description above referred to, except as to the number of florets in the spikelet, which is probably subject to much variation. We cannot see how *B. Thouarsii*, Kunth, En. 1. p. 431, judging from the specific character given in that work, differs; but nearly all the synonyms there adduced belong to other species. *Nastus*, Beauv. Agr. t. 25. f. 3, can scarcely belong to either, although the shape and disposition of the spikelets are not much at variance on account of the style being represented bifid.

We have received, also, from Mr. Millett, from China, another species of *Bambusa*, in which the inflorescence seems to form an immense panicle, or decompound spike, with the branches only of which we are acquainted: these emit from the joints alternate fascicles of 2 or 3 long unequal simple spikes; on these last are placed alternate dense fascicles, composed of several sessile subulate acute spikelets, each nearly an inch long; the lower florets are sterile, the upper ones, in all we have seen, purely male, without any bisexual one: the long lower valvelet of the male florets is oblong, acuminated, and glabrous; the upper one very

small in comparison, glabrous, and only minutely or scarcely at all ciliated along the angles of inflexion, commonly called the margins. We have not seen the stem or leaves, nor can we refer it satisfactorily to any described species: in many points it approaches to *B. Blumeana,* Schult. Syst. Veg. 7. p. 1343, but that species is said to have the spikes or branches of the panicle solitary, and the spikelets surrounding the knot on all sides: the other parts of Schultes' description agree pretty well, so that, perhaps, our plant ought to be considered a variety of *B. Blumeana.*]

Ord. XCI. FILICES. *Juss.*

1. Lycopodium *cernuum. L.*

Hab. Lappas Island; *Vachell.* Macao; *Millett.*

2. L. *caulescens. Wall. Cat. n.* 137. *Hook. et Grev. in Bot. Misc. v.* 2. *p.* 382.

Hab. Macao; *Vachell.*

3. L. *canaliculatum. L.—Hook. et Grev. in Bot. Misc. v.* 2. *p.* 386.—*β. pallidius*; minus nitidum, ramis magis attenuatis, caule inferne stolonifero.

Hab. Macao; *Vachell.*—The *Lycopodia* with sessile spikes, distichous leaves, and superior stipules arranged in two series, so abundant in the tropics, are by no means easy to define. The present, in its paler colour, less glossy foliage, and more attenuated branches, differs from what we conceive to be the true *L. canaliculatum;* but we can hardly consider these characters sufficient to separate it from that species.

1. Osmunda *Vachellii;* fronde pinnata basi fructificante, pinnis lineari-lanceolatis coriaceis integerrimis. *Hook. Ic. Plant. t.* 15.

Hab. Macao and neighbouring islands; *Rev. G. H. Vachell.*—An extremely singular and beautiful species of *Osmunda*, resembling, however, the *O. Javanica* of Blume; but that has many of the pinnæ lobed and pinnatifid, and the fructification confined to the middle pinnæ.

1. Mertensia *Hermanni.*—Gleichenia Hermanni. *Br.—Hook. et Grev. Ic. Fil. t.* 14. —Mertensia dichotoma. *Sw.*—Polypodium dichotomum. *Th. Fl. Jap. t.* 37.

Hab. Macao; *Vachell; Millett.*

2. M. *glaucescens. Willd.*

Our specimens exactly agree with one from Brazil, sent under this name by our friend Dr. Klotzsch, and which has doubtless been compared with the original plant in Willdenow's herbarium. The pinnæ are very glaucous beneath, but narrower than in the last species, always downy or rather arachnoideo-tomentose beneath, especially on the ribs.

1. Lygodium Japonicum. *Sw.*

Hab. Macao and Lappas Island; *Vachell.*—This varies much in the length and breadth both of the sterile and fertile pinnules.

1. Notolæna *pilosa. Hook. et Arn. supra p.* 74.

Hab. Macao; *Vachell.*

1. Niphobolus *pertusus. Spr.*—Polypodium pertusum. *Roxb.—Hook. Ex. Fl. t.* 162.

Hab. Macao; *Vachell; Millett.*

1. Polypodium (Phymatodes) *quercifolium. L.*

2. Polypodium (Phymatodes) *subtriphyllum ;* fronde triangulari subtus puberula 3-5-foliolata, foliolis inferioribus petiolatis basi inæqualibus terminalique triangulari-ovatis acuminatis pinnatifido-lobatis lobis infimis acuminatis reliquis obtusis, foliolis intermediis (si adsint) lanceolatis acuminatis sinuato-pinnatifidis, soris submarginalibus copiosis. (Tab. L.)

Hab. Macao ; *Vachell.*—This species has the closest resemblance in general structure to the *Aspidium trifoliatum,* Sw. Presl ; but the copious specimens are in all stages destitute of involucre, which, in the *Aspidium,* is large and persistent.

Tab. L. Polypodium subtriphyllum. *Fig.* 1. Portion of the frond :—*magnified.*

3. Polypodium (Pleocnemia) *Leuzeanum. Gaudich. in Freyc. Voy. Bot. t.* 6.

1. Aspidium (Nephrolepis) *biserratum. Sw.—β. subhirsutum.* Asp. hirsutulum. *Sw.—Schlech. t.* 33.

Hab. Macao, &c. ; *Vachell.*—Involucre almost entirely orbicular.

2. Aspidium (Nephrolepis) *exaltatum. Sw.*

Hab. Macao ; *Vachell.*—Involucre lanceolate, opening towards the apex of the pinna.

3. Aspidium (Nephrodium) *unitum. Br.* (vix Sw.)—Aspidium pteroides. *Sw.*—Of this there are two varieties, as we believe them to be; the one larger, with more membranaceous fronds; the other smaller, with subrigid fronds; and of this latter the pinnæ vary much in breadth.

4. Aspidium (Nephrodium) *resiniferum.* Kaulf.—*Hook. et Arn. supra p.* 105.—Perhaps too nearly allied to A. (Nephrod.) propinquum, *Br. Prodr. p.* 148.

5. Aspidium (Nephrodium) *molle. Sw.—β, glabriusculum.—γ, paucisorum* ; fronde latiori soris solummodo in venulis infimis.—This may prove to be a new species, having broader fronds than is usual in *A. molle ;* and in several specimens gathered by Messrs. Lay and Collie, as well as in a Chinese specimen in our herbarium from Prof. Lindley, the sori are entirely confined to the lowest veinlets, thus forming 2 parallel lines nearly the whole length of the pinnæ, one on each side the costa.

1. Asplenium *Nidus. L.*

1. Digrammaria *ambigua. Presl.*—Asplenium ambiguum. *Sw. Willd.*—Diplazium Malabaricum. *Spr.*

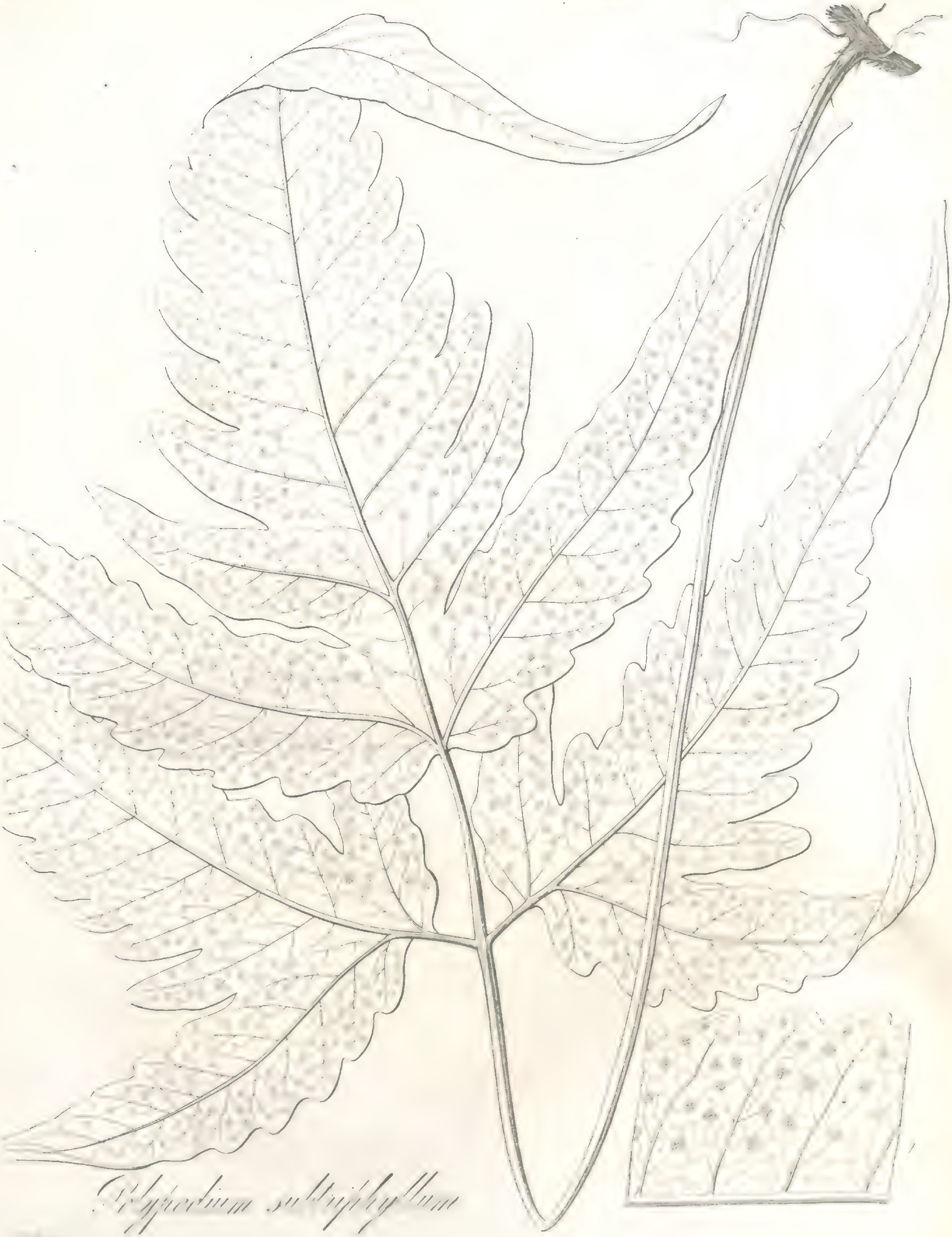
Hab. Lappas Island ; *Vachell.*

1. Pteris *costata ;* pinnata glabra, pinnis linearibus sessilibus basi inæqualiter cordatis minutissime cartilagineo-serratis. (Tab. LI.) *Bory.—Willd. Sp. Pl. v.* 5. *p.* 367.

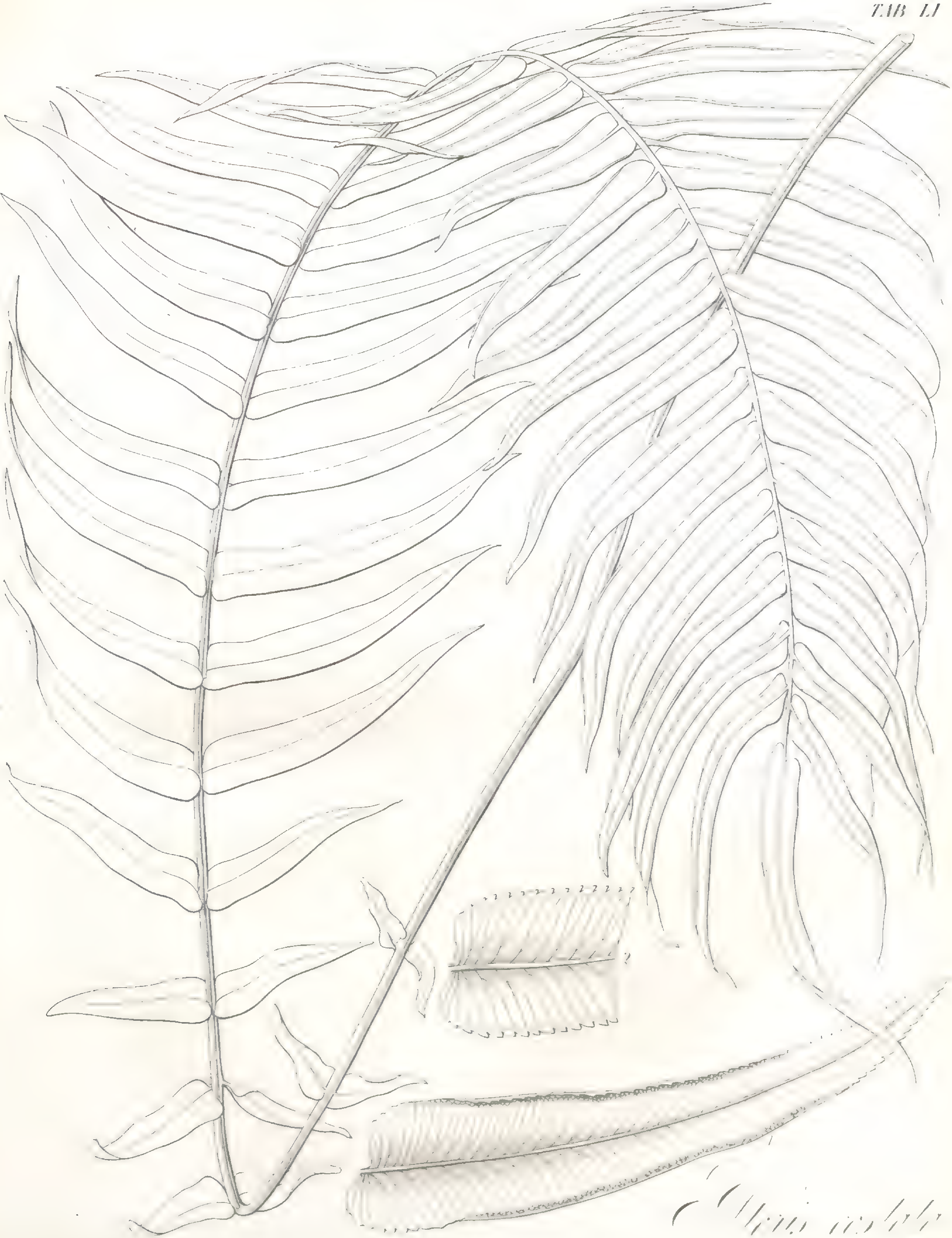
Tab. LI. Pteris costata. *Fig.* 1. Fertile pinnæ ; *fig.* 2. Portion of sterile do. :—*magnified.*

2. Pt. *serrulata. L.*

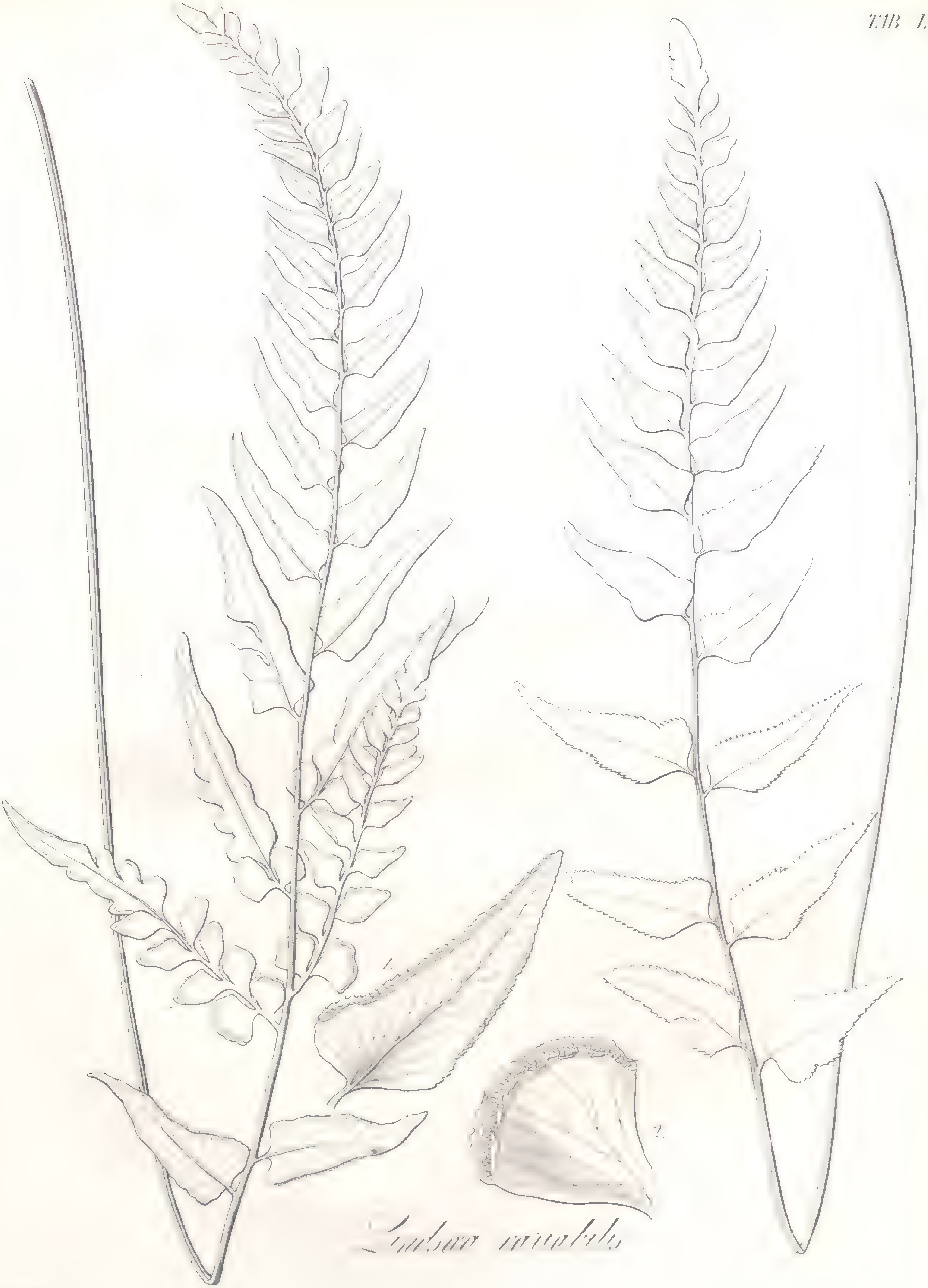
TAB. L.



Polypodium subtriphyllum



Pteris [illegible]



Lindsaea mirabilis

3. Pt. *esculenta. Sw.—Labill. Nov. Holl. v. 2. p. 95. t. 244.*

1. Lomaria *longifolia;* frondis fructificantis pinnis longissimis (pedalibus) linearibus acuminatis brevissime petiolatis.

Only a portion of the fertile frond of this plant exists in the herbarium; it is about 2 feet long, and the pinnæ are alternate, remote, a line or a line and a half wide, and a foot in length, quite glabrous above, beneath covered by the fructification, except on the costa.

1. Blechnum *orientale. Sw.*

1. Adiantum caudatum. *L.—Hook. Ex. Fl. t.* 104.

The pinnæ are sometimes entire, sometimes deeply incised.

2. Adiantum *amœnum. Wall.—Hook. et Grev. Ic. Fil. t.* 103.

Hab. Macao and adjacent islands; *Vachell; Millett.*

1. Lindsæa *polymorpha. Wall.—Hook. et Grev. Ic. Fil. t.* 75.

Hab. Macao; *Millett.*

2. Lindsæa *variabilis;* erecta glabra pinnata, pinnis petiolatis undique sorediatis basi oblique cuneata excepta, superioribus infimisque hastato-oblongis, reliquis, nunc subpinnatifidis integrisque, nunc pinnatis, pinnulis nervosis oblongo-hastatis inferioribus rotundatis oblique cuneatis. (Tab. LII.)

Hab. Macao; *Millett.*

Tab. LII. Lindsæa variabilis. *Fig.* 1. A pinna from the upper part of the plant; *fig.* 2. A pinnule from a lower pinna:—*magnified.*

1. Cheilanthes *tenuifolia. Sw.—Schkh. Fil. t.* 125.

1. Dicksonia *polypodioides. Sw.*

2. D. *flaccida. Sw.*

1. Davallia *ferruginea. Cav.—Nees in Nov. Act. Acad.* 1823. *p.* 122. *t.* 12.—Very nearly allied to *D. tenuifolia*, perhaps not distinct;—and may not *Davallia Chinensis,* Sw. and *D. Chusana, Willd.* be the same species?

2. D. *elegans. Sw.*

1. Azolla *pinnata. Br.*

Hab. Lappas Island; *Vachell.*

Ord. XCII. ALGÆ. *Juss.*

1. Cystoseira *Thunbergii. Ag.*

Hab. N. E. side of the peninsula of Macao; *Vachell.*

1. Sargassum *sisymbrioides. Ag.*—Fucus sisymbrioides. *Turn. Hist. Fuc. t.* 129.

Hab. On the peninsula of Macao; *Vachell.*

2. Sargassum *ilicifolium. Ag.*—Fucus ilicifolius. *Turn. Hist. Fuc. t.* 51.

Hab. Macao; *Vachell.*

3. Sargassum *vulgare. Ag.*—Fucus natans. *Turn. Hist. Fuc. t.* 47.—Var. foliis longioribus angustioribus.

Hab. Macao and adjacent islands; *Vachell.*

Ord. XCIII. LICHENES. *Juss.*

1. Ramalina *fastigiata. Ach.*—Var. thallo angustiori.

Hab. Macao; *Millett.*

LOO CHOO AND BONIN.

[The Flora of these islands resembles rather that of Japan than of China; often, however, exhibiting the plants of both those countries.]

Ord. I. RANUNCULACEÆ. *Juss.*

1. Clematis *apiifolia;* caule ramulisque pubescentibus, foliis ternatim sectis, foliolis ovatis acuminatis inciso-dentatis utrinque parce pilosis subtus nervosis pallidis ad nervos dense hirto-pubescentibus, floribus paniculatis, alabastris obovatis tomentosis, "ovariis 5-7." (De Cand.)—*De Cand. Syst.* 1. *p.* 149; *Prod.* 1. *p.* 6.

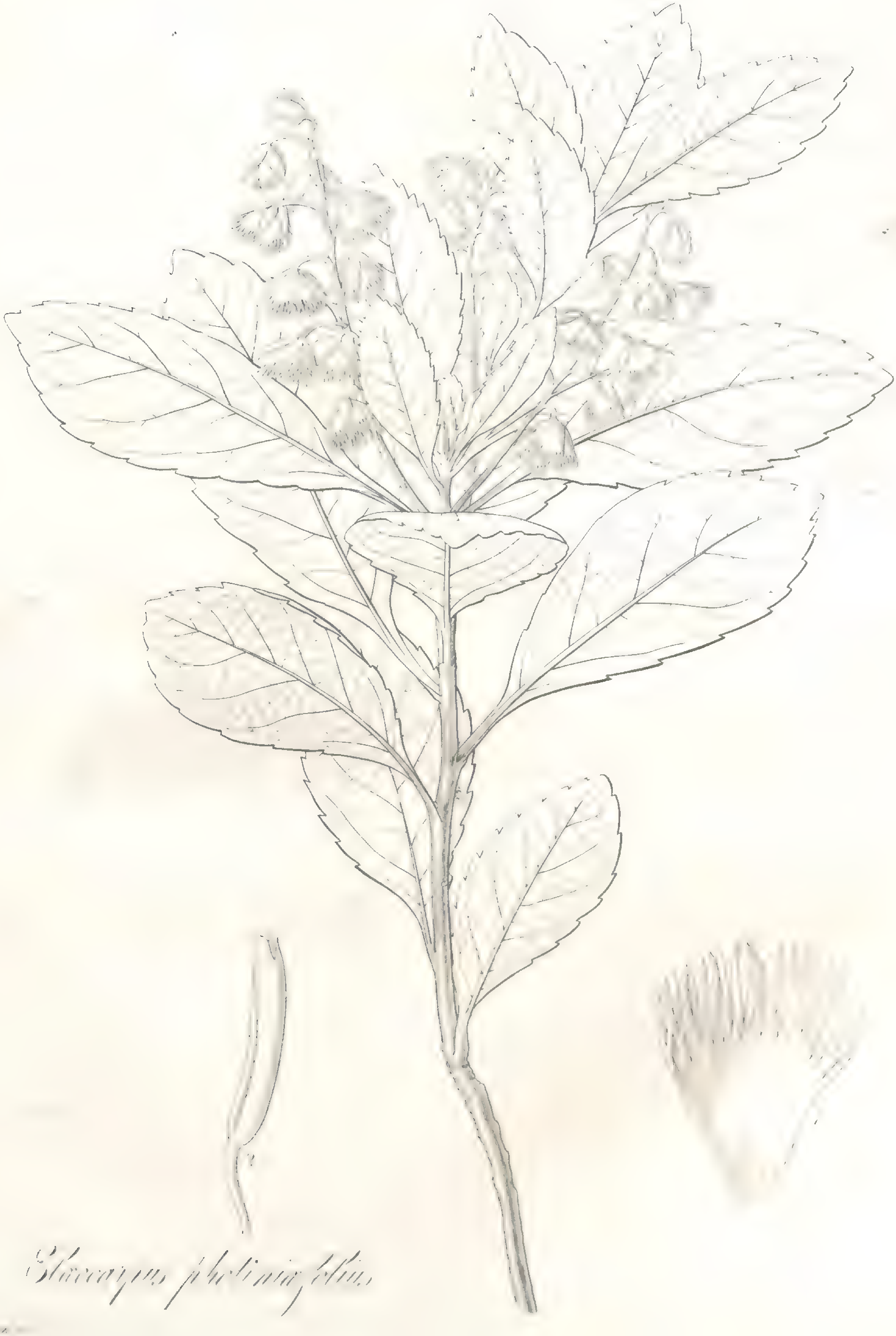
Hab. Loo Choo.

Ord. II. FUMARIACEÆ. *De Cand.*

1. Corydalis *racemosa;* radice fibrosa, caule ramoso glauco erecto vel subdiffuso, foliis alternis bipinnatisectis, foliolis subtus glaucis ovatis vel obovatis obtuse trilobis vel tripartitis inciso-dentatis, racemo paucifloro, bracteis lineari-acuminatis subintegerrimis pedicello subduplo longioribus, sepalis minutis ovatis lanceolatisve apice subulatis paucidentatis, cor. calcare obtuso pedicellum æquante, siliqua lato-lineari in stylum persistentem apice attenuata polysperma, seminibus biseriatis. *Pers. Ench.* 2. *p.* 270. *De Cand. Prod.* 1. *p.* 129.—"Fumaria racemosa. *Thunb. Nov. Act. Petrop.* 12. *p.* 103. *t.* B."

Hab. Bonin.—This, which agrees sufficiently well with the description given by De Candolle, is an undoubted species of the genus *Corydalis,* as restricted by Bernhardi. The fruit is more than an inch long, and nearly two lines broad. The general aspect of the plant is that of several species of *Eucapnos,* Bernh.

TAB LIII



Elæocarpus photiniæfolius

ORD. III. PITTOSPOREÆ. *Brown.*

1. Pittosporum *pauciflorum. Hook. et Arn. supra p.* 168.—β? foliis obtusis, petalis duplo longioribus, fructu trivalvi.

HAB. β, Loo Choo (in fruit); Bonin (in flower).—Our var. α, from China, appears to us to be the *Cortex filarius* of *Rumph. Amb.* 7. *p.* 13. *t.* 7; but is very different from the *P. ferrugineum* of Aiton.

ORD. IV. CARYOPHYLLEÆ. *Juss.*

1. Dianthus *Chinensis. Linn.*—Var. floribus subaggregatis.

HAB. Loo Choo.

1. Arenaria *serpyllifolia. Linn.—Thunb. Fl. Jap. p.* 186.

HAB. Loo Choo.

2. A. *procumbens. Vahl, ?*—Var. angustifolia.

HAB. Loo Choo.—Of this only a small fragment exists in the collection; it may prove to be a new species, its leaves being subulate: like some specimens of the true *A. procumbens,* the habit is that of *A. media,* but there are no scariose stipules. The capsule is 5-valved.

ORD. V. MALVACEÆ. *Juss.*

1. Hibiscus *Rosa-sinensis. Linn.*

HAB. Loo Choo.

1. Paritium *tiliaceum. S. Hil.*—Hibiscus tiliaceus. *Linn.*—β? foliis utrinque glabris basi rotundatis.

HAB. α, Loo Choo.—β, Bonin.—The specimens of both are very imperfect; we have doubts if β be not a distinct species; the structure of the flower, calyx, and involucel, however, do not differ from the usual form of the plant.

1. Sida *alba. Linn.—Wight and Arn. Prod. Fl. Penins. Ind. Or.* 1. *p.* 58.

HAB. Loo Choo.—Better specimens of our *Sida rhombifolia,* from China, (vide supra p. 169), prove our plant to be *S. microphylla. Cav.*

ORD. VI. ELÆOCARPEÆ. *Juss.*

1. Elæocarpus *photiniæfolius;* arborescens, foliis petiolatis alternis cuneato-oblongis subacuminatis serratis, serraturis incurvis acutis, axillis subtus glanduliferis, petiolis eglandulosis, racemis simplicibus ex axillis hornotinis folia subæquantibus, staminibus plurimis, antheris apice barbulatis. (TAB. LIII.)

HAB. Bonin.

Glaber. *Ramuli* subangulati. *Folia* obovata vel obovato-oblonga, obtuse ac brevissime acuminata basi cuneata, in petiolum attenuata, coriacea, 1½-2½ poll. longa, ¾-1¼ lata, margine subrecurva, versus basin remote, versus apicem copiose, serrata, serraturis incurvis glandula apiculatis, venis primariis inferioribus ad axillas glandula subsphærica pertusa instructis. *Petiolus* marginatus, eglandulosus, 3-6 lineas longus. *Racemus*

simplex, pedunculatus, axillaris versus apices ramulorum, folia subæquans. *Flores* subsecundi, cernui, pedicellos æquantes. *Alabastra* ovata. *Sepala* oblonga, acutiuscula. *Petala* dorso glabra, cuneata, basi integerrima, apice lobata ac fimbriata. *Stamina* copiosa. *Antheræ* subsessiles, lineares, puberulæ, apice bifidæ, segmentis recurvo-patentibus æqualibus apice obtusis barbulatis. *Ovarium* globosum, villoso-pubescens, 3-loculare. *Stylus* filiformis, antheras subæquans.

This differs from *E. serratus* by the habit and the foliage.

Tab. LIII. Elæocarpus photiniæfolius. *Fig.* 1. Petal ; *fig.* 2. Anther :—*magnified.*

Ord. VII. TERNSTRŒMIACEÆ. *De Cand.*

1. Eurya *Japonica. Thunb. Fl. Jap. p.* 191. *tab.* 25.

Hab. Loo Choo.—In our plant the leaves are smaller and much more approximate than in Thunberg's plate ; in size and shape they exactly resemble the uppermost of that figure. The specimen is in fruit. The style is persistent, short, and trifid at the apex.

Ord. VIII. AURANTIACEÆ. *Corr.*

1. Murraya *exotica. Linn.*

Hab. Loo Choo.—Called by the natives Gee-Keetza. Most botanists consider that Japan is the native country of this plant, but it does not seem to have been noticed there by Thunberg.

Ord. IX. GUTTIFERÆ. *Juss.*

1. Calophyllum *Inophyllum. Linn.*

Hab. Bonin.—Plukenet's Alm. t. 147. f. 3, referred here by some botanists, by others to *C. Tacamahaca,* is considered by Dr. Buchanan Hamilton to be a species of *Gardenia ;* it resembles *Xanthochymus ovalifolius* more than any of these, and is probably that species.

Ord. X. SAPINDACEÆ. *Juss.*

1. Dodonæa *Burmanniana. De Cand. Prod.* 1. *p.* 616.

Hab. Bonin.

Ord. XI. AMPELIDEÆ. *H. B. K.*

1. Vitis (Cissus) *carnosa. Wall.—Wight et Arn. Prod. Fl. Penins. Ind. Or.* 1. *p.* 127.

Hab. Loo Choo.—If the genus *Cissus* is to be retained, its characters must rest on the quaternary proportion of the flower (quinary in *Vitis*), and the distinct style ; the inflorescence is considerably different.

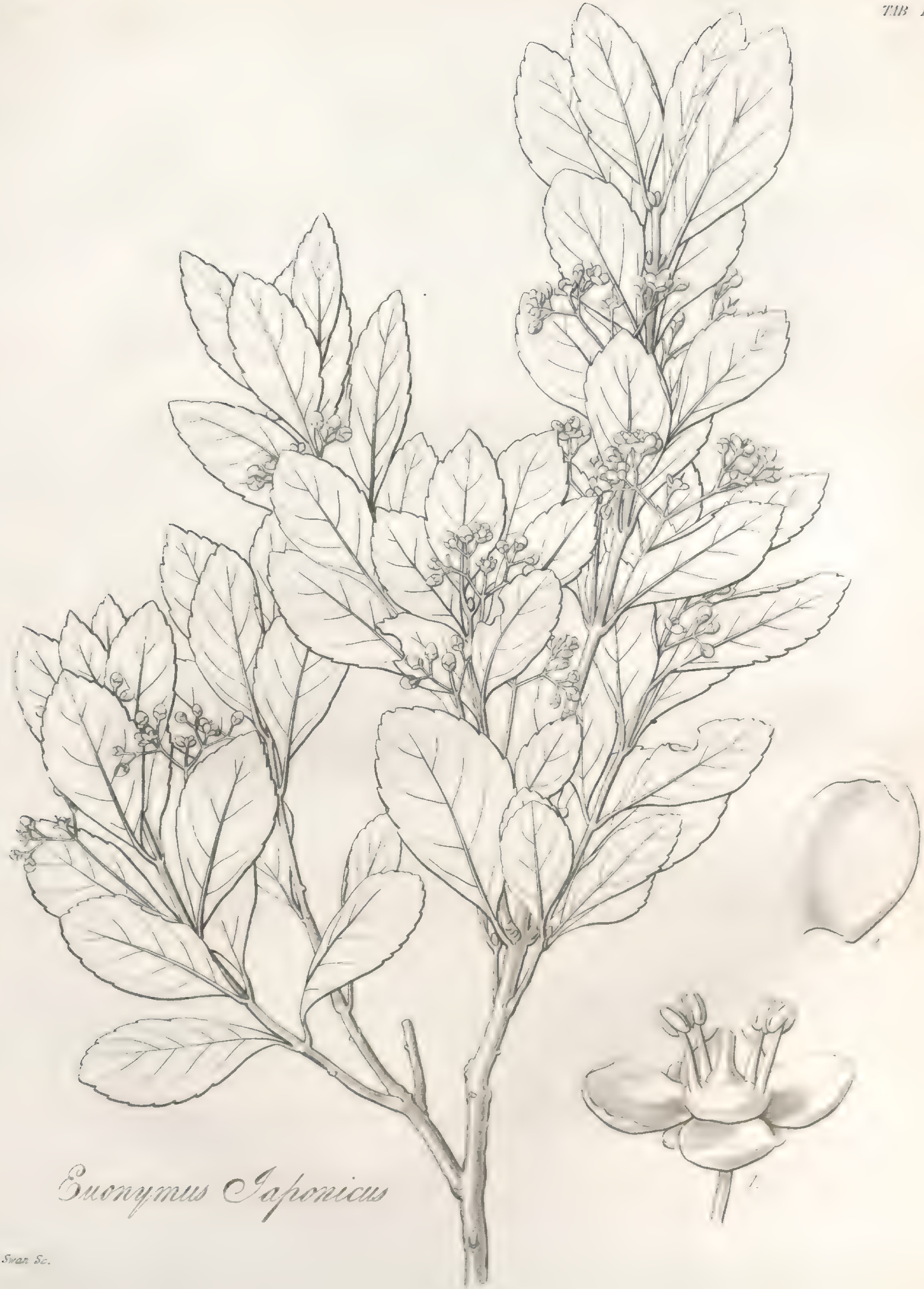
2. Vitis *Indica. Linn.—Wight et Arn. l. c. p.* 131.—V. Labrusca. *Thunb. Fl. Jap. p.* 103?

Hab. Loo Choo.

Ord. XII. BALSAMINEÆ. *Rich.*

1. Impatiens *Balsamina. Linn.*—Balsamina hortensis. *Desp.*

Hab. Loo Choo.



Euonymus Japonicus

Swan Sc.

ORD. XIII. OXALIDEÆ. *De Cand.*

1. Oxalis *corniculata. Linn.—Thunb. Fl. Jap. p.* 187.—O. repens. *Thunb.*

ORD. XIV. ZANTHOXYLACEÆ. *Adr. de Juss.*

1. Toddalia *aculeata. Pers.—Wight et Arn. l. c. p.* 149.

HAB. Loo Choo.

1. Zanthoxylon *piperitum;* aculeis stipularibus parvis rectis, foliis impari-pinnatis, foliolis 7-11 obovato-oblongis obtusis crenulatis margine subrevolutis basi cuneatis inæqualibus, petiolo anguste marginato, pedunculis axillaribus brevibus ramosis paucifloris, ovariis duobus.—Z. piperitum. *De Cand. Prod.* 1. *p.* 725?—Fagara piperita. *Linn. Sp. p.* 127? *Thunb. Fl. Jap. p.* 64?

HAB. Bonin.—In our plant the leaflets do not exceed three and a half, or at most four lines in length, while many are only about two and a half; and it is principally from their small size that we have doubts about the synonyms adduced.

ORD. XV. CELASTRINEÆ. *Brown.*

1. Evonymus *Japonicus;* ramis erectis, foliis ovalibus basi cuneatis coriaceis obtusis obtuse serratis, pedunculis compressis 2-3-chotomis folia subæquantibus, floribus 4-fidis, petalis rotundato-obovatis margine glabris stamina paullo superantibus, "capsula subglobosa 3-4-sulcata." (Thunb.)—E. Japonicus. *Thunb. Fl. Jap. p.* 100. *De Cand. Prod.* 2. *p.* 4. (TAB. LIV.)

HAB. Bonin.—From this, *E. Japonicus* of Dr. Wallich, and of Mr. G. Don, in *Mill. Dict.* 2. *p.* 5, is quite distinct. Thunberg's description is, on the whole, so accurate, that it is unnecessary here to give a new one. The leaves vary a little in shape, being sometimes oblong, sometimes obovate. The petals are rather longer than broad.

TAB. LIV. Evonymus Japonicus. *Fig.* 1. Flower; *fig.* 2. Petal:—*magnified.*

ORD. XVI. ILICINEÆ. *Brongn.*

1. Prinos *integra;* foliis coriaceis venosis sempervirentibus integerrimis obovato-oblongis obtusiusculis, pedicellis femineis aggregatis, fructu quadripyreno.—Ilex integra. *Thunb. Fl. Jap. p.* 77?—I. asiatica. *Linn. Sp. p.* 710?

HAB. Bonin.—We refer this to *Prinos* rather than to *Ilex*, principally from the inflorescence. The leaves of the specimen before us are from three to four inches long; whereas Thunberg says of his plant that they are only an inch; the petioles of the Bonin plant are three-fourths of an inch long, of Thunberg's "vix unguiculares."

ORD. XVII. RHAMNEÆ. *Juss.*

Berchemia *lineata. De Cand.—Vide supra, p.* 177 *et tab.* XXXVII.

HAB. Loo Choo.

Ord. XVIII. LEGUMINOSÆ. *Juss.*

1. Melilotus *parviflora. Desf.*

Hab. Loo Choo.

1. Medicago *denticulata. α, brevispina. Benth.*—M. apiculata. *Willd.*

Hab. Loo Choo.

1. Lespedeza *cuneata. G. Don in Mill. Dict.* 2. *p.* 307?—Anthyllis cuneata. *Dum. Cours. Bot. Cult.* 6. *p.* 100?

Hab. Loo Choo.—This accords well with the short specific character given in the above work. *Hedysarum sericeum, Thunb. Fl. Jap. p.* 287, may be this species, but Thunberg describes its leaves as silky on both sides, whereas in our plant they are quite glabrous on the upper surface. *Hed. junceum,* of Roxburgh, appears also to approach closely, but if that proves, as we presume, from Hamilton's synonym being the origin of both, the same with *L. eriocarpa* of De Candolle, it must differ from the Loo Choo species. The legume is minutely pubescent. The plant is shrubby.

2. Lespedeza *striata;* humilis herbacea erectiuscula, caulibus canescentibus, stipulis ovatis acuminatis petiolo longioribus, foliolis cuneato-oblongis obovatisve obtusis vel retusis setula brevissima terminatis pellucide ac copiose parallelim venosis, floribus axillaribus solitariis breve pedunculatis, corolla calycem duplo superante, ovario rhombeo.—Hedysarum striatum. *Thunb. Fl. Jap. p.* 291.—Desmodium? striatum. *De Cand. Prod.* 2. *p.* 337.

Hab. Bonin.

Herba (in nostris) annua vix tripollicaris, fide Thunbergii pedalis et ultra, parce ramosa. *Stipulæ* adpressæ, multistriatæ. *Foliola* breviter petiolulata, nervo medio subtus piloso, circiter lineas 4 longa. *Bracteolæ* duæ, ovales, calyci adpressæ, lineato-striatæ, ciliatæ. *Calyx* tubuloso-campanulatus, 5-angulatus et plicatus, ad medium 5-fidus, laciniis ovalibus ciliatis pulchre reticulato-venosis, duabus superioribus angustioribus ac paullo brevioribus inæquilateris, inferiore latiore ac obtusiore. *Corolla* calycem duplo superans e vexillum obovatum emarginatum. *Alæ* lineari-oblongæ. *Carina* transverse obtusa. *Stamina* diadelpha (9 et 1). *Ovarium* rhombeum, basi apice acutum, hinc ciliolatum, uniovulatum. *Stylus* elongatus, filiformis, apice incurvus ac incrassatus.

1. Soja *hispida. Moench.*

Hab. Loo Choo.

1. Arachis *hypogæa. Linn.*

Hab. Loo Choo.

1. Guilandina *Bonduc. Ait.*

Hab. Bonin.

Ord. XIX. ROSACEÆ. *Juss.*

1. Rubus *parvifolius. Linn.; vide supra, p.* 184.

Hab. Loo Choo.

1. Raphiolepis? *integerrima;* foliis coriaceis elliptico-oblongis obtusiusculis basi acuminatis integerrimis, bracteis deciduis, fructu (immaturo) anguste obpyriformi apice limbo calycis cupulato truncato coronato.

Hab. Bonin.—This plant has two long slender styles, which are glabrous as in *Photinia;* but the structure of the limb of the calyx allies it more to *Raphiolepis.* The corymb appears to be simple and few-flowered, there being only 4 pedicels composing it in the only specimen we have seen.

Ord. XX. COMBRETACEÆ. *Brown.*

1. Terminalia *Catappa. Linn.*

Hab. Bonin.

Ord. XXI. GRANATEÆ. *Don.*

1. Punica *Granatum. Linn.*

Hab. Loo Choo.—By a letter we have lately received from Dr. Wight of Madras, we learn that Mr. Griffith (Hon. E. I. C. service) has now determined that this Order is truly distinct from *Myrtaceæ*, and that the explanation of the structure of the fruit, given by those who unite it to the latter order, is quite erroneous.

Ord. XXII. CUCURBITACEÆ. *Juss.*

1. Cucumis *sativus. Linn.*

Hab. Loo Choo.

1. Bryonia . . . .; foliis petiolatis late cordatis subangulatis grosse dentatis supra punctis callosis albis onustis subtus glabris, cirrhis simplicibus.

Hab. Loo Choo.—This does not agree with any published species, nor have we materials sufficient to enable us to describe it. If it be *B. Japonica,* Thunb., that plant is very ill defined by that author.

Ord. XXIII. CRASSULACEÆ. *De Cand.*

1. Sedum *uniflorum;* caulibus ramosis e basi procumbente adscendentibus, foliis alternis subteretibus obtusis basi solutis glabris, floribus solitariis ramulos terminantibus, petalis lanceolatis acutiusculis.

Hab. Loo Choo.—Stems from five to six inches long, weak and slender. The petals appear to have been reddish.

Ord. XXIV. FICOIDEÆ. *Juss.*

1. Tetragonia *expansa. Ait.*

Hab. Bonin.

Ord. XXV. UMBELLIFERÆ. *Juss.*

1. Hydrocotyle *asiatica. Linn.*

Hab. Loo Choo and Bonin.

1. Dasyloma *glaucum. De Cand. Prod.* 4. *p.* 140.—Biforis Bengalensis. *Wall. Cat. n.* 588. B. (*in Herb. Arn.*)

Hab. Loo Choo and Bonin.

1. Torilis *Japonica. De Cand.—Vide supra, p.* 189.

Hab. Loo Choo.—We scarcely see how this species differs from small specimens of the European *T. Anthriscus.*

1. Daucus *Carota. Linn.*

Hab. Loo Choo.

Ord. XXVI. CAPRIFOLIACEÆ. *Juss.*

1. Lonicera *affinis;* tota glabra, ramis volubilibus, foliis petiolatis ovatis acutiusculis integris supra lucidis subtus pallidis, pedunculis axillaribus petiolo fere brevioribus bifloris, corollæ tubo gracili folio duplo breviore.

Hab. Loo Choo.—This is very closely allied in habit to *L. chinensis,* but the branches and leaves are perfectly glabrous. In character it resembles *L. longiflora,* but there the flower is very long.

Ord. XXVII. RUBIACEÆ. *Juss.*

1. Mussænda *glabra. Vahl,—Wight et Arn. l. c. p.* 393.

Hab. Loo Choo.

1. Gardenia *radicans.* "*Thunb. Diss. Gard. n.* 1. *t.* 1. *f.* 1." *De Cand. Prod.* 4. *p.* 379.

Hab. Bonin and Loo Choo.—This differs principally from *G. fragrans* in the shape of the leaves.

1. Stylocoryne *racemosa. Cav. Ic.* 4. *t.* 368. *De Cand. Prod.* 4. *p.* 377.

Hab. Loo Choo.

2. Stylocoryne *Webera. A. Rich.—Wight et Arn. l. c. p.* 401.—Cupia corymbosa. *De Cand. Prod.* 4. *p.* 394.

Hab. Bonin.—Although the specimens be very imperfect, they obviously belong to this genus, and apparently to the present species.

1. Hedyotis (Diplophragma) *multiflora. Cav. Ic.* 6. *t.* 574. *f.* 2?

Hab. Bonin.—The only specimen in the collection has no flowers, but the remains of a few old capsules, which enable us to refer it to the neighbourhood of *H. Lawsonia* and *H. fruticosa;* our plant is considerably branched, and is probably shrubby at the bottom of the stem.

2. Hedyotis *biflora. Brown,—Wight et Arn. l. c. p.* 413.—Var.? *parvifolia;* foliis minoribus spathulato-oblongis subcoriaceis, radice subperenni.—H. ramosissima. *Blume Bijdr. p.* 972?

Hab. Loo Choo.—The largest leaves are only about three-fourths of an inch long, and two and a half lines broad. The capsule and inflorescence are precisely as in the usual form. Had Chamisso and Schlechtendahl not described their *Gerontogea racemosa* with lanceolate and acuminated leaves, we should have rather referred it to the Loo Choo variety of this species, than to *Hed.* (*Oldenlandia*) *racemosa. Hedyotis biflora,* Brown, or *Oldenlandia biflora*, Linn., must not be confounded with *Oldenlandia biflora* of Lamarck and most other botanists, which is *Hed.* (*Old.*) *Burmanniana*, Br.—*Gonotheca Blumei, De Cand. l. c. p.* 429, is, on the authority of the specimen referred to in the Paris museum, and which was compared for us by M. Adr. de Jussieu, identical with *Hedyotis alata.* (*Kœnigia, Wall. Cat. n.* 6196, and *Wight and Arn. Prod.* 1. *p.* 413.)

1. Grumilea *Reevesii. Hook. et Arn. supra, p.* 193.—Psychotria Mariana. *Bartl. et De Cand. Prod.* 4. *p.* 522?

HAB. Loo Choo and Bonin.

1. Galium *rotundum. Thunb. Fl. Jap. p.* 59 (*vix tamen* G. rotundifolium, *Linn.*)

HAB. Loo Choo.—In our plant the fruit is young, and covered with numerous sharp papillæ, or very short straight hairs, so that it appears to be more allied to the *Euparines* or *Coccogalia* of De Candolle, than to the section to which *G. rotundifolium* belongs. We are ignorant of the duration of the plant; De Candolle does not seem to notice it.

ORD. XXVIII. COMPOSITÆ. *Juss.*

1. Vernonia *cinerea. Less.*—HAB. Bonin and Loo Choo.

1. Eupatorium *Reevesii. Wall.?—De Cand. Prod.* 5. *p.* 179?—E. chinense. *Thunb. Fl. Jap. p.* 308 (*non Linn.*)—HAB. Loo Choo.

1. Blumea *lacera. De Cand. Prod.* 5. *p.* 436.—HAB. Loo Choo.

B. chinensis, H. & A. (vide supra, p. 195) is *Duhaldea chinensis*, De Cand. l. c. p. 366.

1. Dichrocephala *latifolia. De Cand. Prod.* 5. *p.* 372.—Ethulia ageratoides. *H. et A. supra, p.* 66 (from Gambier's Island).

1. Hisutsua? *serrata;* foliis omnibus serratis.—HAB. Loo Choo.

Perhaps this is a mere variety of *H. cantoniensis* (De Cand. Prod. 6. p. 44), to which species our *Myriactis javanica* (supra, p. 195) certainly belongs. This genus seems scarcely to differ from *Myriactis*, as now defined by M. De Candolle; the glands on the underside of the ligulate florets are in our specimens so inconspicuous as only to be observable with a microscope: the appearance of the flower is that of one of the Aster tribe.

1. Wedelia *calendulacea. Less.—De Cand. Prod.* 5. *p.* 539.—HAB. Loo Choo.

1. Wollastonia *prostrata. H. et A.*—Verbesine prostrata. *H. et A. supra, p.* 547.—HAB. Loo Choo.

1. Artemisia *Indica. Willd.—De Cand. Prod.* 6. *p.* 114.—A. vulgaris. *Thunb. Fl. Jap. p.* 310.—HAB. Loo Choo.

1. Maruta *Cotula. De Cand. Prod.* 6. *p.* 13.—M. fœtida. *Cass.*—Anthemis Cotula. *Linn.*—HAB. Loo Choo.

1. Emilia *sonchifolia. De Cand. Prod.* 6. *p.* 302.—HAB. Bonin.

1. Carthamus *tinctorius. Linn.—De Cand. Prod.* 6. *p.* 612.—HAB. Loo Choo.

1. Cirsium *Japonicum. De Cand. Prod.* 6. *p.* 640, var. capitulo glabriusculo.—Hab. Loo Choo.

1. Lactuca *sativa. Linn.*—Hab. Loo Choo.

1. Prenanthes *integra. Thunb. Fl. Jap. p.* 300?—Hab. Loo Choo.

2. P. *japonica. Thunb. Fl. Jap. p.* 302.

Ord. XXIX. GOODENOVIEÆ. *Brown.*

1. Scævola *sericea. Forst.*—Hab. Bonin and Loo Choo.

Ord. XXX. CAMPANULACEÆ. *Juss.*

1. Wahlenbergia *marginata. Alph. De Cand.*—Campanula marginata. *Thunb. Fl. Jap. p.* 89.—Hab. Loo Choo.

Ord. XXXI. VACCINIEÆ. *De Cand.*

1. Vaccinium *bracteatum. Thunb. Fl. Jap. p.* 156.—Hab. Bonin.

Ord. XXXII. ERICINEÆ. *Juss.*

1. Rhododendron *Indicum. Don.*—Azalea Indica. *Linn.*—*Thunb. Fl. Jap. p.* 84.—Hab. Loo Choo.

Ord. XXXIII. SAPOTEÆ. *Juss.*

1. Sideroxylon *ferrugineum;* inerme, foliis coriaceis obovatis vel oblongo-lanceolatis basi attenuatis apice obtusis vel acutiusculis, subtus ferrugineo-sericeis demum denudatis pallidis, pedunculis axillaribus aggregatis unifloris petiolo paullo brevioribus calyceque ferrugineo-pubescentibus corollæ squamis subulatis filamenta sterilia æmulantibus. (Tab. LV.)—Hab. Bonin.

Corolla 5-fida, rotata. *Stamina* 5 fertilia, laciniis corollæ opposita, filamentis sterilibus (corollæ squamis) alternantibus.

Tab. LV. Sideroxylon ferrugineum. *Fig.* 1. Flower; *fig.* 2. Portion of the corolla, with stamens and sterile filaments:—*magnified.*

Ord. XXXIV. APOCYNEÆ. *Juss.*

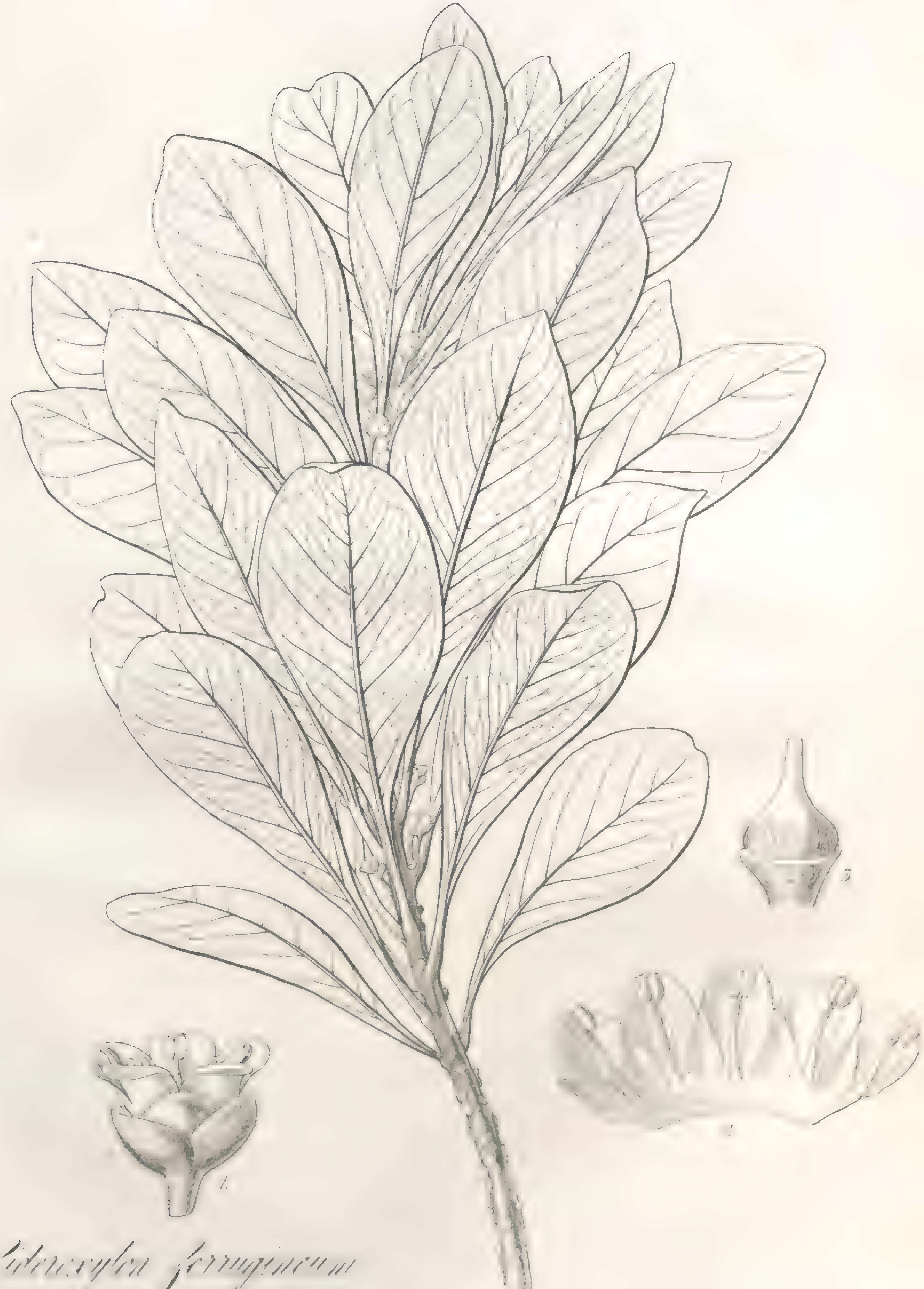
1. Nerium *odorum. Linn.*—Hab. Loo Choo.

Ord. XXXV. GENTIANEÆ. *Juss.*

1. Erythræa *centaurioides. H. et A.*—Chironia centaurioides. *Roxb. Fl. Ind.*—Hab. Loo Choo.

Erythræa cochinchinensis, Spr. is probably a mere variety of this species.

TAB LV.



Sideroxylon ferrugineum

Ord. XXXVI. CONVOLVULACEÆ. *Juss.*

1. Ipomæa *reptans. Chois.*—Hab. Loo Choo.

In these specimens the leaves are more cordate and less hastate than in the common form of the plant.

1. Evolvulus *hirsutus. Lam.—Chois. Conv. Or. p.* 114.—Hab. Bonin.

Ord. XXXVII. EHRETIACEÆ. *Mart.*

1. Carmona *heterophylla. Cav. Ic.* 5. *t.* 438.—Ehretia heterophylla. *Spr.*—Hab. Loo Choo and Bonin.

To this genus, as has been already observed by Adr. de Jussieu, *Ehretia buxifolia* likewise belongs; the ovary contains six cells.

Ord. XXXVIII. BORAGINEÆ. *Juss.*

1. Echinospermum *javanicum. Lehm.*—Hab. Loo Choo.

Ord. XXXIX. SOLANEÆ. *Juss.*

1. Solanum *biflorum. Lour.*—Hab. Loo Choo.

2. S. *Melongena. Linn.*—Hab. Loo Choo.

1. Physalis *angulata. Linn.*—Hab. Loo Choo.

1. Lycium *chinense. Mill.*—L. Barbarum, var. chinense. *Auct.—Lam. Ill. t.* 112. *f.* 2. —Hab. Loo Choo.

The five teeth of the calyx are nearly equal and equidistant, but there is nevertheless a tendency to being disposed into two lips, the one bifid, the other trifid. We have, therefore, doubts if *L. Barbarum, chinense,* and *Trewianum,* are really specifically distinct.

Ord. XL. SCROPHULARINEÆ.

1. Vandellia *crustacea. Benth.—Vide supra, p.* 202.—Hab. Bonin.

1. Veronica *Anagallis. Linn.*—V. undulata. *Wall.*—Hab. Loo Choo.

1. Buddleia *curviflora;* ramis teretiusculis subtomentosis, foliis tenui-membranaceis ovato-lanceolatis acuminatis subdentatis supra glabris subtus pubescentibus demum glabris, racemis terminalibus elongatis, pedunculis pauci-(3-10-)floris, corollæ tubo elongato apice supra antheras incurvo.—Hab. Loo Choo.

Perhaps this may be *B. acuminata* of Poiret; but he could scarcely have omitted to mention the singular incurvation of the corolla, precisely similar to what is seen in the genus *Striga.* Poiret also says that the panicle is short; here the raceme is six to eight inches long.

ORD. XLI. LABIATÆ. *Juss.*

1. Scutellaria *Indica. L.—Thunb. Fl. Jap. p.* 250.—HAB. Loo Choo.

1. Leucas *Javanica. Benth. Lab. p.* 611?—HAB. Loo Choo.

This differs from *L. chinensis* by being much less tomentose, and by the mouth of the calyx not dilated. From *L. biflora* it differs by the more numerous flowers in each verticillastrum. It is also allied to *L. pubescens*, but the flowers are less crowded, and the whole plant is only slightly more pubescent than in *L. biflora*. From the imperfect specimen before us, it appears annual.

1. Melissa *repens. Benth. Lab. p.* 392.—Var. foliis ovatis acutis.—Clinopodium vulgare. *Thunb. Fl. Jap. p.* 247.—HAB. Loo Choo.

ORD. XLII. VERBENACEÆ. *Juss.*

1. Verbena *officinalis. Linn.*—HAB. Loo Choo.

1. Lippia *nodiflora. Rich.*—HAB. Loo Choo.

1. Vitex *ovata. Thunb. Fl. Jap. p.* 256.—HAB. Loo Choo.

1. Clerodendron *paniculatum. Linn.*—HAB. Loo Choo.

2. C. *fragrans. Linn.*—HAB. Loo Choo.

3. C. *viscosum. Venten.*—HAB. Loo Choo.

4. C. *inerme. R. Brown.*—HAB. Loo Choo.

1. Callicarpa *purpurea. Juss.? Roxb.?*—HAB. Bonin and Loo Choo.

Of this we have two forms before us. That from Bonin has oblong-lanceolate gradually acuminated leaves, and axillary corymbs: the other, from Loo Choo, has roundish-oval suddenly acuminated leaves, and the inflorescence from the uppermost axils only. In both, the young foliage is covered, particularly on the under side, with a mealy pubescence, but in the adult state it is glabrous. In many respects both agree with Roxburgh's description in the Flora Indica.

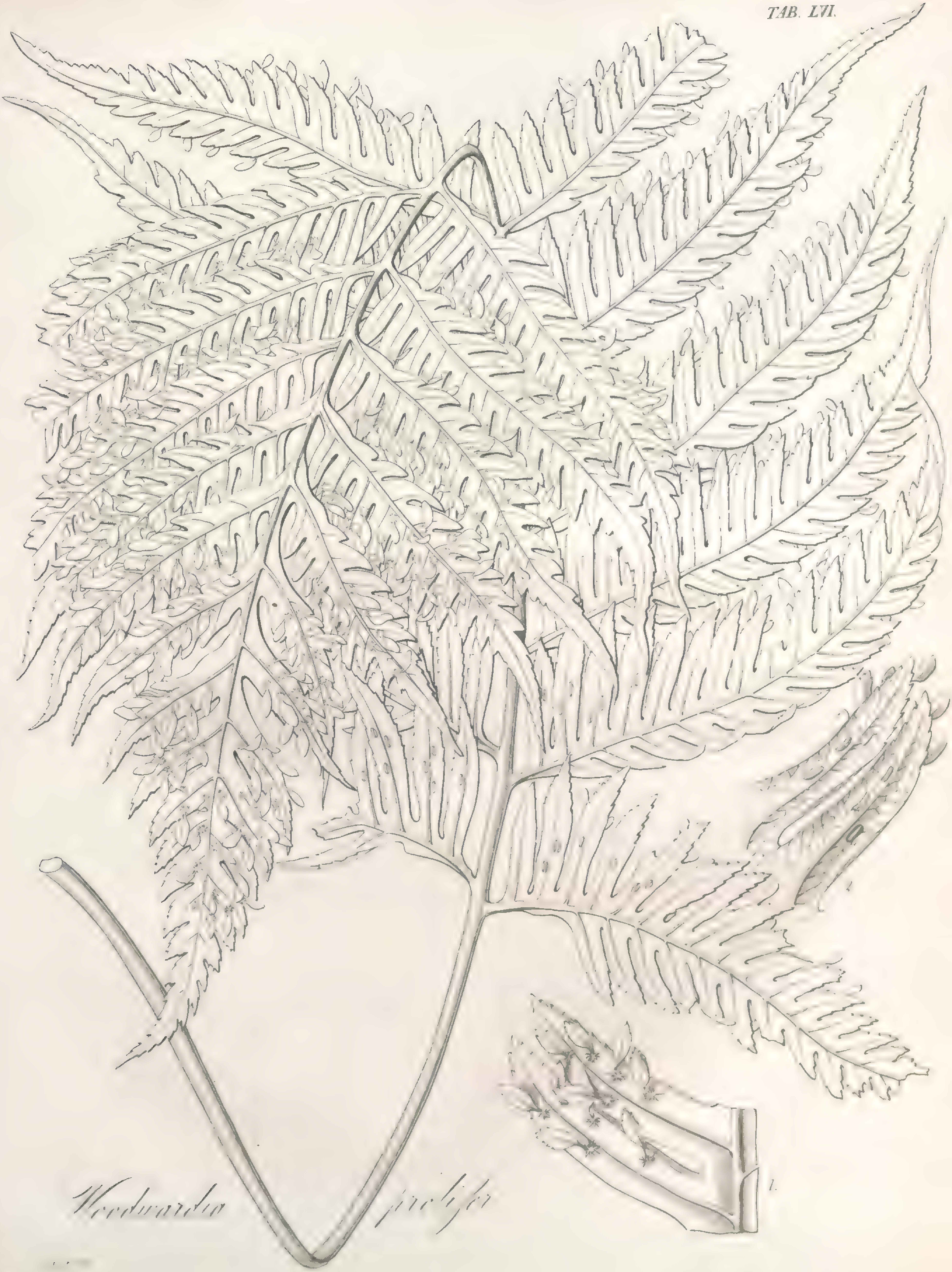
ORD. XLIII. ACANTHACEÆ. *Juss.*

1. Rostellaria *procumbens.* β, *Nees ab Esenb. in Wall. Plant. As. Rar.*—Justicia japonica. *Thunb. Fl. Jap. p.* 20?—HAB. Loo Choo.

ORD. XLIV. PRIMULACEÆ. *Juss.*

1. Anagallis *cærulea. Linn.*—HAB. Loo Choo.

1. Lysimachia *leariloba*; glaberrima, foliis spathulato-obovatis obtusis basi in petiolum attenuatis crassiusculis impunctatis, racemo bracteato, pedunculis subunifloris bracteam foliaceum sessilem subæquantibus apice pentagonis, corollæ laciniis linearibus



Woodwardia prolifera

obtusis calycem subcoriaceo duplo longioribus, staminibus inclusis. (TAB. LVI.)—HAB. Loo Choo.

This has white flowers, and approaches in many respects to *L. Ephemerum* of Europe, and some East Indian species, with which it forms a peculiar group.

TAB. LVI. Lysimachia lineariloba. *Fig.* 1. Flower; *fig.* 2. Stamen; *fig.* 3. Pistil:—*magnified.*

ORD. XLV. PLANTAGINEÆ. *Juss.*

1. Plantago *asiatica;* foliis ovalibus obtusis glabris crassiusculis integerrimis petiolatis, petiolis ima basi parce lanatis, scapo glabro superne angulato, spica gracili basi dissitiflora, corollæ lobis ovatis acutiusculis, capsula 4-sperma.—P. asiatica. *Linn.?*—HAB. Loo Choo.

Perhaps this may be a variety of *P. Cornuti,* De Cand.

ORD. XLVI. NYCTAGINEÆ. *Juss.*

1. Boerhaavia *diffusa. W.*—HAB. Loo Choo.

ORD. XLVII. AMARANTHACEÆ. *Juss.*

1. Celosia *argentea. Linn.—Thunb. Fl. Jap. p.* 106.—HAB. Loo Choo.

1. Achyranthes *aspera. Linn.—Thunb. Fl. Jap. p.* 105. HAB. Loo Choo.

ORD. XLVIII. CHENOPODIACEÆ. *Venten.*

1. Chenopodium *Vachellii;* foliis planis ovalibus obtusis cum mucrone integerrimis subtus subfarinosis, spicis terminalibus paniculatis aphyllis caryopsi horizontaliter depressa.—C. acutifolium? *Hook. et Arn. supra, p.* 207.—HAB. Loo Choo.

1. Suæda *australis. Moq.*—Chenopodium australe. *R. Brown?*—HAB. Loo Choo.

The only specimen before us is very imperfect: it agrees with *S. nudiflora* in the short floral leaves or bracteæ, but the stem is herbaceous.

ORD. XLIX. POLYGONEÆ. *Juss.*

1. Polygonum *barbatum. Linn.—Thunb. Fl. Jap. p.* 165.—HAB. Loo Choo.

2. P. *sinense. Linn.—Thunb. Fl. Jap. p.* 166.—HAB. Loo Choo.

ORD. L. LAURINEÆ. *Juss.*

1. Cinnamomum *zeylanicum.* var. oblongifolium. *Nees ab Esenb.*—HAB. Bonin and Loo Choo.

ORD. LI. SANTALACEÆ. *Juss.*

1. Thesium *australe;* herbaceum, foliis linearibus acuminatis cauleque glabris, racemis subspicatis elongatis remotifloris simplicibus, bracteis foliaceis fructu globoso 4-6-plo longioribus, pedicellis flore brevioribus, perianthio sub-4-fido segmentis obtusis tubo florente parum longioribus.—T. australe. *R. Brown? Prod. Fl. Nov. Holl. p.* 353.—HAB. Loo Choo.

This seems to be the species described by Mr. Brown, but he adds that the segments of the perianth are *longitudinally margined:* in the Loo Choo plant the margin is paler, but not, that we can perceive, at all thickened.

ORD. LII. EUPHORBIACEÆ. *Juss.*

1. Rottlera *japonica;* subherbacea? foliis late ovatis subcordatis subdentatis adultis utrinque glabris longe petiolatis eglandulosis.—R. japonica. *Spr.?*—Croton japonicum. *Thunb. Fl. Jap. p.* 270. *tab.* 29?—HAB. Loo Choo.

Thunberg's figure and description do not represent the leaves as cordate, but rounded at the base; in our plant they are either emarginate or slightly cordate.

2. R. *aurantiaca;* arborescens, foliis oblongo-lanceolatis acuminatis integerrimis subtus pubescentibus, glandulis ad basin obsoletis, floribus racemosis, capsula aurantiaca farinosa.—HAB. Loo Choo.

This approaches very closely to some narrow-leaved forms of *R. tinctoria*, Roxb.

1. Croton *polystachyum. Willd.?*—HAB. Loo Choo.

Our specimens agree well with Sprengel's character of the plant, except that the leaves are rather obovate than oblong, being broader towards the apex than the base. The two glands at the base are flat and concave, and almost immersed in the substance of the leaf. If this be really Willdenow's plant, there is probably either some error in the locality given by that author, or Messrs. Lay and Collie have accidentally mixed a part of the Brazilian collections with the present packet. We might have considered it *C. elæagnifolium* of Vahl, but here there are two glands at the base of the leaf, and the petiole is two or three lines in length. The leaf is from one to four inches long.

1. Phyllanthus *rhamnoides. Retz?*—HAB. Loo Choo.

Leaves larger than in Burman's figure, usually referred to this species. We have not observed any male flowers, so that we cannot determine whether it belongs to the restricted genus *Phyllanthus*, or to *Melanthesa*, of Blume. We may here remark, that *Ph. lucens* (supra, p. 210, cum synon.) is *Melanthesa chinensis*, Blume Bijdr. p. 592.

ORD. LIII. CHLORANTHEÆ. *R. Br.*

1. Chloranthus *inconspicuus. Sw.*—Nigrina spicata. *Thunb. Fl. Jap. p.* 65.—HAB. Loo Choo

ORD. LIV. URTICACEÆ. *Juss.*

1. Ficus *septica. Rumph.*—HAB. Loo Choo.

2. F. *pumila. Linn.?*—HAB. Loo Choo.

3. F. *Beecheyana;* foliis integerrimis oblongo-lanceolatis apice attenuatis basi subcordatis trinerviis alioquin penninervibus subtus pallidis junioribus supra sparsim subtus dense pubescentibus adultis glabratis, fructibus solitariis pedunculatis globosis apice mammillatis basi attenuatis et bractea triloba instructis junioribus pubescentibus maturescentibus glabris.—HAB. Loo Choo.

This we cannot refer to any described species.

1. Urtica *nivea. Linn.—Thunb. Fl. Jap. p.* 71?—HAB. Loo Choo.

1. Boehmeria *densiflora;* fruticosa, ramis pubescentibus, foliis oppositis breviter petiolatis anguste oblongo-lanceolatis attenuatis argute serratis trinerviis supra et ad nervos subtus strigosis, spicis femineis axillaribus folia subæquantibus cylindricis dense multifloris.—HAB. Loo Choo.

ORD. LV. CONIFERÆ. *Juss.*

1. Podocarpus *neriifolius. Lamb.*—Taxus verticillatus. *Thunb. Fl. Jap. p.* 276?—HAB. Loo Choo.

1. Juniperus *taxifolia;* arborescens, foliis obtusiusculis ternis verticillatis adultis patulis superne concavis glaucis subtus bisulcatis, fructibus subsessilibus.—J. virginica. *Thunb. Fl. Jap. p.* 264.—HAB. Bonin.

2. J. *Thunbergii;* arborescens, foliis quadrifariam imbricatis oblongo-linearibus mucronatis supra concavis glaucescentibus subtus convexis carinatis.—J. Barbadensis. *Thunb. Fl. Jap. p.* 264.—HAB. Loo Choo.

We have not seen the fruit.

1. Pinus *Massoniana. Lamb.*—P. sylvestris. *Thunb. Fl. Jap. p.* 274.—HAB. Loo Choo.

ORD. LVI. ORCHIDEÆ. *Juss.*

1. Spiranthes *indica. Lindl.?*—HAB. Loo Choo.

The only specimen is very imperfect. There is another species of this genus in the collection, from Loo Choo, but only in fruit.

1. Cymbidium *triste. Lindl.*—Epidendrum teres. *Thunb. Fl. Jap. p.* 30.—HAB. Bonin.

ORD. LVII. SCITAMINEÆ. *R. Brown.*

1. Globba *Hura. Roxb.?*—HAB. Bonin.

The peduncles are solitary, and two or three-flowered.

1. Alpinia *Allughas. Roscoe?*—HAB. Loo Choo.

This, as well as all the Monocotyledones, except some of the Gramineæ and Cyperaceæ, are so mutilated as to prevent our determination of the species with any degree of certainty.

ORD. LVIII. LILIACEÆ. *Juss.*

1. Lilium *pomponium. Thunb. Fl. Jap. p.* 134.—HAB. Loo Choo.

ORD. LIX. ASPHODELEÆ. *Br.*

1. Allium *angustum. G. Don?*—HAB. Loo Choo.

This is the only species to which we can refer the Loo Choo plant, but it differs by the umbel being bulbiferous and not crowded: it may, however, be *A. odorum,* of Thunberg and Loureiro, which Mr. G. Don calls *A. Thunbergii.* The stamens are exserted, simple, and arise from a broad triangular membranous base.

1. Dianella *graminifolia. Linn.*—HAB. Loo Choo.

ORD. LX. DIOSCOREÆ. *R. Brown.*

1. Dioscorea *japonica. Thunb. Fl. Jap. p.* 151?—D. oppositifolia. *Lour.* (*an Linn.?*) —HAB. Loo Choo.

Rumphius' Amb. 5. tab. 123, gives a good representation of our plant. Perhaps it is only a form of *D. alata,* but the branches are slender and nearly terete.

ORD. LXI. COMMELINEÆ. *R. Brown.*

1. Commelina *polygama. Roth.*—HAB. Loo Choo.

ORD. LXII. PALMÆ. *Juss.*

1. Caryota *urens. Linn.?*—HAB. Loo Choo.

A branch of the male spadix only is present, without leaves.

ORD. LXIII. CYPERACEÆ. *Juss.*

1. Abildgaardia *Rottboelliana.* α, spica solitaria demum subnutante. *Nees ab Esenb. Mst.*—A. monostachya. var. indica. *Vahl; Kunth, En.* 2. *p.* 247.—HAB. Loo Choo.

1. Cyperus *hexastachyus. Rottb.*—HAB. Loo Choo.

1. Mariscus *cyperinus. Vahl.*—HAB. Loo Choo.

1. Chætocyperus *Limnocharis. Nees ab Esenb.?*—HAB. Loo Choo.

The specimens are not sufficiently advanced to enable us to determine the structure of the fruit accurately: the stems are more slender than in the Indian specimens.

1. Fimbristylis *podocarpa. N. ab E.*—F. communis. *Kunth, En.* 2. *p.* 235. *supra, p.* 225.—Hab. Loo Choo.

1. Carex *Boottiana;* culmo brevissimo, foliis subradicalibus linearibus longissime subulato-attenuatis margine revolutis et ad nervum subtus scabris inflorescentiam 2-3-plo superantibus, spica mascula solitaria terminali, fœmineis subquaternis remotiusculis longiuscule pedunculatis erectis cylindraceis apice masculis, fructibus squama lanceolata setaceo-acuminata brevioribus oblongo-lanceolatis rostratis rostro longe bicuspidato nervosis glabris patulis trigonis, angulis duobus acutissimis dorsali obtuso, stigmatibus tribus.—Hab. Bonin.

Allied to *C. Hænkeana* of Presl, but that is described as having pendulous female spikes, ovate squamæ, and broad leaves.

Ord. LXIV. GRAMINEÆ. *Juss.*

1. Paspalus *Boryanus. Presl?*—Hab. Bonin.

1. Panicum *Rottleri. Kunth.*—Hab. Bonin.

We can perceive no difference between this and the specimens from the Peninsula of British India. The sheaths of the leaves are hirsute, the hairs springing from tubercles.

2. P. *commutatum. Nees ab Esenb.—Vide supra, p.* 232.—Hab. Loo Choo.

3. P. *ischæmoides. Retz.—Vide supra, p.* 233.—Hab. Loo Choo.

4. P. *miliaceum. Lam.—Vide supra, p.* 233.—Hab. Loo Choo.

5. P. *Italicum. Linn.*—P. hordeiforme. *Thunb. Fl. Jap. p.* 46. *tab.* 9.—Hab. Loo Choo.

6. P. *penicillatum. Willd.*—Hab. Loo Choo.

7. P. *hispidulum. Lam.—Vide supra, p.* 235.—Hab. Loo Choo.

1. Isachne *muricata. Nees ab Esenb.—Vide supra, p.* 236.—Hab. Loo Choo.

The only specimen in the collection has leaves longer, in proportion to the breadth, than usual.

1. Thouarea *involuta. Brown, Prod.* 1. *p.* 137, *in adnot.*—Isachne involuta. *Forst. Prod. n.* 385.—Hab. Bonin.

1. Chrysopogon *aciculatus. Trin.—Vide supra, p.* 238.—Hab. Loo Choo.

1. Imperata *Kœnigii. P. de B.—β, Nees ab Esenb.—Vide supra, p.* 240.—Hab. Loo Choo.

1. Pogonatherum *refractum. Nees ab Esenb. supra, p.* 239.—Andropogon crinitum. *Thunb. Fl. Jap. p.* 40. *tab.* 7.—Hab. Loo Choo.

1. Spodiopogon *aureus;* caulibus cæspitosis adscendentibus nodisque glabris, foliis lan-

ceolatis acuminatis subconvolutis glabris vel basi ad margines parce pilosis, spicis binis dichotomis, spiculis subconformibus lanceolatis, rhacheos ramis triquetris flavo-ciliatis angulis poriformibus, gluma inferiore ad medium usque connexa lævi supra medium plana nervosa versus margines pubescente spicæ sessilis acute bicuspidata pedicellata subulata vel longe ante apicem hinc unicuspidata, superiore bicuspidata inter dentes setigera, arista flosculi superioris hermaphroditi spiculam subquadruplo superante.—HAB. Loo Choo.

2. S. *ischæmoides;* culmo nodis vaginisque glabris, foliis lineari-acuminatis glabris planiusculis, vagina summa subinflata microphylla, spica dichotoma oblonga densiflora, spiculis ovatis, gluma inferiore spiculæ sessilis basi connexa lævi supra medium nervosa marginata minute bidentata, superiore acuminata seta spiculam fere duplo superante spicæ pedicellatæ mutica, rhachi triquetro parce albido-ciliata cæteroquin ad spiculam basin glabra.—Ischæmum minus. *Presl, in Kunth, En.* 1. *p.* 514?—HAB. Bonin.

1. Vilfa *elongata. Nees ab Esenb.—Var.* spiculis æneis.—HAB. Loo Choo.

1. Avena *fatua. Linn.*—HAB. Loo Choo.

1. Oryza *sativa. Linn.*—HAB. Loo Choo.

1. Bambusa . . . .—HAB. Loo Choo.—(There are no flowers.)

ORD. LXV. FILICES.

1. Lygodium *Japonicum. Sw.—supra, p.* 255.—HAB. Loo Choo.

1. Grammitis (Loxogramme, *Presl,*) *coriacea, Kaulf.;* fronde lanceolata utrinque attenuata acutiuscula coriacea evenia integerrima margine plana, soris obliquis crassis subelongatis.—HAB. Bonin.

Allied to *Gr. lanceolata,* Sw. (Hook. et Grev. Ic. Fil. t. 43.) but that has larger, broader, and much less coriaceous fronds, with the lines of fructification parallel with the costa.

1. Selliguea *decurrens. Presl.*—Grammitis decurrens. *Wall.—Hook. et Grev. Ic. Fil. t.* 6.—HAB. Loo Choo.

1. Aspidium (Cyrtomium, *Presl,*) *falcatum, Sw.*—Polypodium falcatum. *Th. Fl. Jap. p.* 336. *t.* 36.—HAB. Bonin.

Nearly allied to *Aspid.* (*Cyrtomium,* Pr.) *caryotideum,* Wall. in Hook. et Grev. Ic. Fil. t. 69, but very different in the form and serratures of the pinnæ, and in the nature of the indusium, which is here furnished with a distinct umbo.

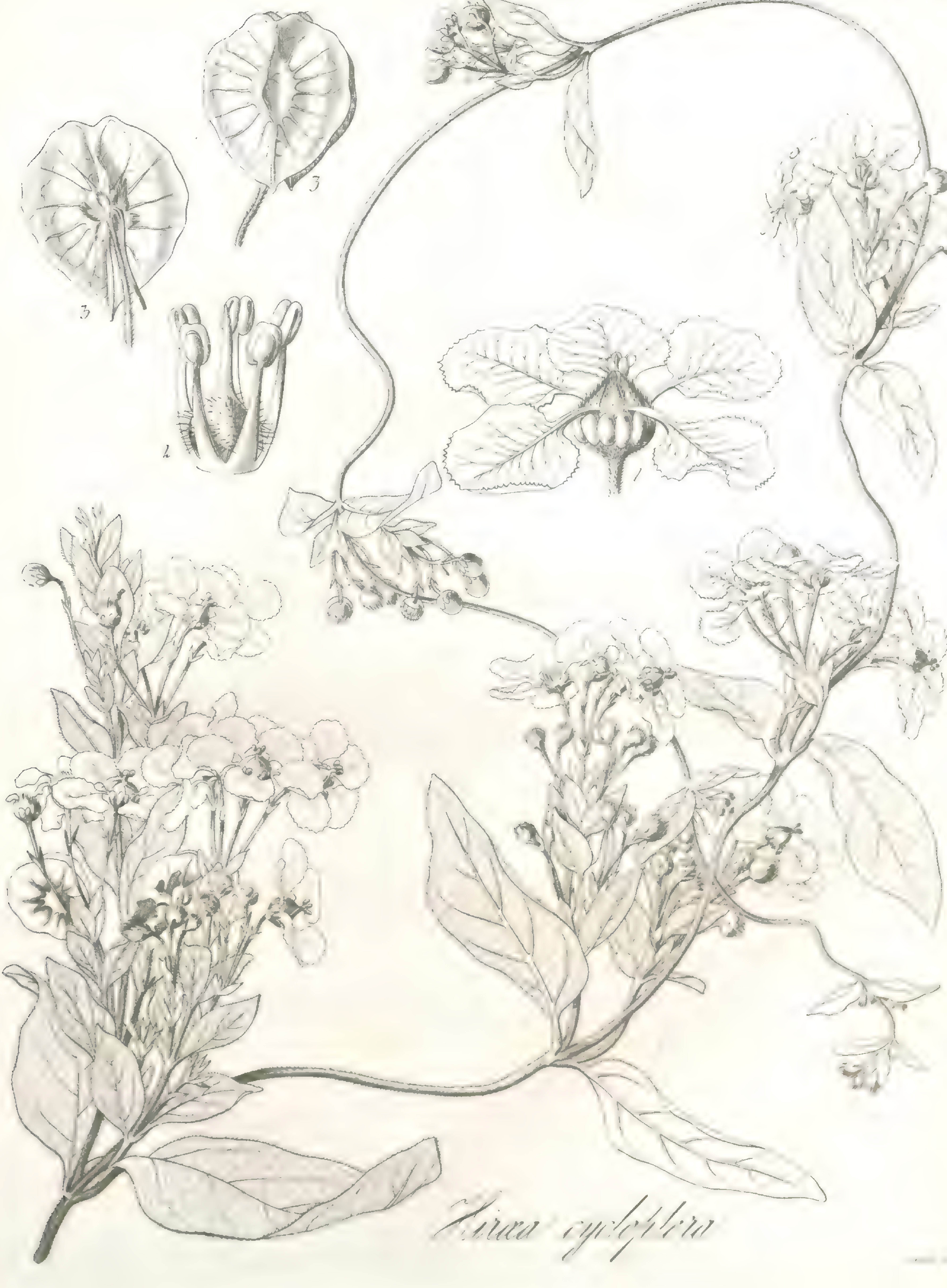
2. A. (Nephrodium) *exaltatum. Sw.—supra, p.* 256.—HAB. Loo Choo.

1. Asplenium *patens. Kaulf. Enum. Fil. t.* 175.—HAB. Bonin.

1. Pteris *longifolia. Linn.*—HAB. Loo Choo.

2. P. *serraria. Sw.*—P. Cretica. *Th. Fl. Jap. p.* 332. (*non Linn.*)—HAB. Loo Choo.

TAB LVII.



Hiraea cycloptera

1. Woodwardia *prolifera, n. sp.;* fronde triangulari-ovata pinnata, pinnis lato-lanceolatis acuminatis profunde pinnatifidis basi valde inæqualibus cuneatis brevi-petiolatis supra proliferis subtus præcipue ad costam paleaceo-squamosis, laciniis lanceolatis acutis reticulatim venosis superne serrulatis. (Tab. LVII.)—*W. orientalis? Sw. Syn. Fil. p.* 117 *et* 315.—Hab. Loo Choo.

This is very distinct from any *Woodwardia* we have had the opportunity of seeing. It can scarcely be the *W. orientalis* of Swartz (a native of Japan) of which the pinnæ are described as sinuato-pinnatifid. The reticulation on the laciniæ is certainly more copious in our plant than in any other of the genus; but its most remarkable feature arises from the copious scaly buds, each bearing a young frond, which appear on the upper side of the laciniæ, and always from a certain point of the nervation, in the upper angle of the costal nerves, occasioning a corresponding depression on the under side. Our specimens are almost entirely destitute of sori.

Tab. LVII. Woodwardia prolifera. *Fig.* 1. Upper side of a proliferous lacinia; *fig.* 2. Under side of do.

1. Davallia *ferruginea. Cav.—supra, p.* 257.

Ord. LXVI. ALGÆ.

1. Dictyota *spinulosa, n. sp.;* fronde lato-lineari dichotoma spiraliter torta membranacea olivaceo-fusca minute reticulata disco utrinque margineque spinulosis.—Hab. Loo Choo.

Frond about a span long, flat, membranaceous, many times dichotomous, ½ an inch broad near the base, 2 or 3 lines broad in the ultimate shoots, the margins and the whole disc on both sides beset with spinous processes of the texture of the frond. The reticulation is very minute and peculiar, consisting of broadish *transverse* bands and more crowded, and far slenderer *longitudinal* lines, both equally visible in the dry and in the moist state.

MEXICO.

When no habitat is mentioned, the specimens are understood to have been collected at Tepic. We must remark, however, that there seems to have been a considerable mixture of the specimens collected at Loo Choo and Bonin with those of Mexico, the same species occasionally occurring in both packets. Thus nearly all the specimens of what we have called *Euonymus Japonicus* and *Elæocarpus photiniæfolius*, are in the Mexican collection; and on the other hand, we found a bad specimen of *Gordonia Lasianthus* among the Loo Choo collection, although we thought it unnecessary to notice it.

Ord. I. RANUNCULACEÆ. *Juss.*

1. Clematis *sericea. H. B. K. Nov. Gen.* 5. *p.* 37; *De Cand. Prod.* 1. *p.* 5; *Schlecht. in Linn.* 5. *p.* 209, *et* 6. *p.* 416.

2. C. *Caraccasana. De Cand. Syst.* 1. *p.* 142; *Schlecht. in Linn.* 5. *p.* 209.—C. Caripensis. *H. B. K. Nov. Gen.* 5. *p.* 29; *De Cand. Prod.* 1. *p.* 4.

The only specimen in the collection appears to be the extremity of a branch, and has all the leaves trifoliolate.

ORD. II. DILLENIACEÆ. *DC.*

1. Curatella *Americana. Linn.; De Cand. Prod.* 1. *p.* 70.

This is not noticed by Schlechtendal as a Mexican plant.

1. Tetracera *volubilis. Linn.; H. B. K. Nov. Gen.* 5. *p.* 50; *De Cand. Prod.* 1. *p.* 67.

ORD. III. MENISPERMACEÆ. *Juss.*

1. Cissampelos *Pareira. Linn.—Schlecht. in Linn.* 5. *p.* 211, *et* 6. *p.* 418.

Both the male and female plants are in the collection; the upper as well as under side of the leaves are densely clothed with a harsh tawny tomentum.

ORD. IV. FUMARIACEÆ. *DC.*

1. Corydalis (Bulbocapnos) *ambigua. Cham. et Schl.?*—HAB. Talisco.

There is only the fragment of a raceme, without stem or leaves. Another specimen is in the Mexican collection, but as it belongs to what we have noticed among the Loo Choo plants as *Corydalis racemosa*, we presume it was only placed here by mistake.

ORD. V. CRUCIFERÆ. *Juss.*

1. Senebiera *Mexicana;* foliis linearibus acutis integris vel apice tridentatis, racemo laxifloro, siliculis subcompressis didymis sublævibus.

This we do not find noticed by authors, although we already possess it in our herbarium, also from Mexico, where, particularly on the west side, it is probably not uncommon. It has quite a different appearance from the *S. didyma* of Europe. We may here remark, that *S. serrata*, Poir., from Montevideo, and a new species, (foliis angustissime linearibus integerrimis) from Tweedie, found in North Patagonia, form a new section of the genus, which may be characterized thus: *Silicula nec apice emarginata nec dorso cristata: flores subumbellati.*

1. Lepidium virginicum. *L.—De Cand. Prod.* 1. *p.* 205; *Schlecht. in Linn.* 5. *p.* 213.

ORD. VI. CAPPARIDEÆ. *Juss.*

1. Cratæva *Tapia. Linn. Herb.* (*non Sp. Pl.*); *Velloz. Fl. Flum.* 5. *t.* 3.—C. acuminata. *De Cand. Prod. sup.* 243.—Cleome arborea. *Schrad.; De Cand. l. c. p.* 242.—HAB Acapulco.

The stamens of our plant are considerably shorter than in Vellozo's figure referred to.

ORD. VII. FLACOURTIANEÆ. *Rich.*

1. Flacourtia *celastrina. H. B. K.? Schlecht. in Linn.* 6. *p.* 425.

Kunth describes the leaves of his plant as membranaceous; in ours they are hard and firm, and almost coriaceous. There are two forms in the collection: one, the male, obtained at Tepic, where most of the collection was made, has the leaves cuneate and narrow-oblong: the other, the female, collected at Talisco, has oval leaves; in both they are acute at the base.

ORD. VIII. BIXINEÆ. *Kunth.*

1. Bixa *Orellana. Linn.*

ORD. IX. POLYGALEÆ. *Juss.*

1. Polygala *paniculata. Linn.—Schlecht. in Linn.* 5. *p.* 230, *et* 6. *p.* 426.

2. Polygala (Timutua) *aparinoides;* herbacea perennis (vel suffruticosa?), caulibus ramium simplicibus quadrangulatis, foliis verticillatis 2-6-nis obovato-oblongis mucronatis subepunctatis flaccidis margine scabris, spica longe pedunculata gracili subdensiflora, alis obovatis carina cristata paullo brevioribus, corolla eglandulosa, seminibus clavato-oblongis retrorsum pubescentibus appendiculis 2 seminis longitudine.

1. Monnina *Xalapensis. H. B. K.*—HAB. Acapulco.

ORD. X. CARYOPHYLLEÆ. *Juss.*

1. Drymaria *cordata. Willd.*—HAB. Talisco.

This genus has stipules, and rather belongs to the *Paronychiaceæ.*

1. Mollugo *arenaria. H. B. K. Nov. Gen.* 6. *p.* 20.

This principally differs from *M. cerviana* by having the umbels either sessile or on short peduncles.

ORD. XI. MALVACEÆ. *Juss.*

1. Malva *spicata. Linn.—De Cand. Prod.* 1. *p.* 430; *Schlecht. in Linn.* 11. *p.* 350.

The carpels of the specimen in the collection are covered towards the apex with several white erect bristles, but are otherwise glabrous. De Candolle says they are quite glabrous.

1. Malachra *bracteata. Cav.?*

2. M. *Mexicana. Schrad.?—Schlecht. in Linn.* 11. *p.* 354?

We refer to this with doubt, having seen no description: we scarcely know how it differs from *M. capitata,* which Schlechtendal also formerly (see Linnæa, 5. p. 227, and 6. p. 422) considered his plant to be.

1. Pavonia (Cancellaria) *racemifera;* herbacea? ramis petiolis pedunculisque stellato-pilosis, foliis cordatis 5-angulatis lobo medio acuminato serratis supra pubescentibus subtus tomentosis, floribus pedunculatis, pedunculis inferioribus axillaribus petiolo 2-3-plo longioribus, superioribus racemosis brevioribus primum approximatis demum

remotis, bractea ad pedicelli basin filiformi elongata, involucello sub-8-phyllo calycem subduplo superante, foliolis lineari-subulatis calyci fere ad medium usque adhærentibus, carpellis inermibus dorso pubescentibus bisulcatis.—An Malvacea, No. 1309, *Schlecht. in Linn.* 6. *p.* 423, *et* 11. *p.* 370?

Carpella quinque capsularia bivalvia monosperma dorso inter margines elevatos et carinam sulcata. Columna staminea inclusa, antheris stigmatibusque exsertis.

1. Malvaviscus *Acapulcensis. H.B.K. Nov. Gen.* 5. *p.* 224; *Schlecht. in Linn.* 11. *p.* 360.

1. Hibiscus *Tampicensis. Moric. Pl. Am. p.* 7. *t.* 5; *Schlecht. in Linn.* 11. *p.* 362.

1. Paritium *Azanza. G. Don, Gen. Syst. Gard.* 1. *p.* 485.

The upper leaves are broadly ovate, quite entire or obscurely crenated, and perfectly glabrous on both sides. Involucel 8-9-cleft.

Perhaps *Paritium Pernambucense,* G. Don, l. c., does not differ specifically. To this belongs the glabrous specimen, which we noticed under *Paritium tiliaceum,* from Bonin, (supra, p. 259) but which we are now inclined to suspect was misplaced.

1. Anoda *cristata. Schlecht. in Linn.* 11. *p.* 210.—Anoda triloba et A. Dilleniana. *Cav.* —Hab. Talisco.

The specimens belong to the form with the carpels very shortly mucronate.

1. Sida *rhombifolia. Linn.?*

2. S. *carpinifolia. Linn.?*—Hab. Acapulco.

The specimens are very imperfect: there are rather large linear-oblong acuminated glabrous stipules at the base of the petioles.

3. S. *filiformis. Moric.?*

This specimen also is very imperfect.

4. S. *paniculata. Linn.—Schlecht. in Linn.* 11. *p.* 364. (*vix Cav. Diss.* 1. *t.* 12. *f.* 5.)—S. capillaris. *Hort. Ber.—Schlecht. in Linn.* 6. *p.* 422. *Cav. l. c. t.* 1. *f.* 7.?

5. S. *urens. Linn.*

The leaves are more acuminated than usual.

1. Abutilon *albidum;* foliis longe petiolatis cordato-ovatis acuminatis utrinque tomentosis rugosis grosse crenatis, pedunculis axillaribus unifloris petiolo longioribus sub calyce articulatis, laciniis calycinis ovatis paullum acuminatis, carpellis sub-10-truncatis mucronatis calycem æquantibus hirsutis.—Sida albida. *Willd.?*

Folia acuminata, minime tamen caudato-acuminata, ut in planta Mexicana a Schlechtendalio in Linnæa 11. p. 369 memorata.

In many respects this agrees better with *Sida ceratocarpa,* H. & A., (which is also an *Abutilon,*) than with any other species we know, but the carpels are very different.

ORD. XII. BOMBACEÆ. *Kunth.*

1. Helicteres *guazumæfolia. H. B. K.?*—H. guazumæfoliæ proxima. *Schlecht. in Linn.* 6. *p.* 424, *et* 11. *p.* 370.

1. Bombax ellipticum. *H. B. K. Nov. Gen.* 5. *p.* 299; *Schlecht. in Linn.* 6. *p.* 299, *et* 11. *p.* 371.—HAB. Acapulco.

ORD. XIII. BYTTNERIACEÆ. *Br.*

1. Guazuma *ulmifolia. Lam.—Schlecht. in Linn.* 11. *p.* 374.

2. G. *polybotrya. Cav. Ic.* 3. *t.* 299.—HAB. Acapulco and Tepic.

1. Byttneria *lanceolata. Fl. Mexic.*—Var.? pedunculis 1-3-nis subunifloris.

Fructus cocci tuberculati, tuberculis confertis acutis 2-3 subulato-attenuatis cætera longe superantibus.

1. Melochia *parvifolia. H. B. K.*

1. Riedleia *serrata. Vent.?*

Our specimen is so imperfect that we cannot determine whether it belongs to *Riedleia* or *Melochia*: it does not agree well with De Candolle's description of *R. serrata*, but that is the only Mexican species of either genus hitherto noticed by Schlechtendal that at all approaches to it.

ORD. XIV. TILIACEÆ. *Juss.*

1. Corchorus *siliquosus. Linn.—Schlecht. in Linn.* 11. *p.* 376.

1. Triumfetta *dumetorum. Schlecht. in Linn.* 11. *p.* 377?

Our specimens agree well with the description there given, except "floribus versus apices in cymas axillares dispositis," whereas they form an almost leafless thyrse or compound contracted raceme.

2. T. *paniculata. H. et A.*—Triumfetta sp. *Schlecht. in Linn.* 6. *p.* 424, *et* 11. *p.* 376.

Capsulæ setæ glabræ tenues fructus longitudine.

ORD. XV. ELÆOCARPEÆ. *Juss.*

1. Elæocarpus *photiniæfolius. H. et A. supra, p.* 259. *tab.* LIII.

As the majority of the specimens collected in the expedition were placed along with the Mexican plants, we insert the species here, not doubting, however, but this took place through inadvertency. It may, however, have been cultivated in some garden in Mexico.

ORD. XVI. TERNSTRŒMIACEÆ. *Mirb.*

1. Cochlospermum *serratifolium. De Cand.—Schlecht. in Linn.* 11. *p.* 251.

No leaves accompany this specimen. We have the same from the island of Antigua.

1. Gordonia *Lasianthus. Linn.*—var.? foliis integerrimis.

Of this we find no trace among Schlechtendal's papers. We have not seen the fruit, but in every respect, save that the leaves are here perfectly entire, it agrees well with the figure in the *Botanical Magazine, t.* 668.

ORD. XVII. AURANTIACEÆ. *Corr.*

1. Triphasia *trifoliolata. De Cand. Prod.* 1. *p.* 536.—HAB. Acapulco (probably cultivated).

1. Citrus *medica. Risso.*

2. C. *Limonum. Risso.* var.? foliis obtusis.—Citrus. *n.* 321. *Schlecht. in Linn.* 11. *p.* 426.

ORD. XVIII. HIPPOCRATEACEÆ. *Juss.*

1. Hippocratea *Acapulcensis. H. B. K. Nov. Gen.* 5. *p.* 136; *De Cand. Prod.* 1. *p.* 568. —HAB. Acapulco.

ORD. XIX. MALPIGHIACEÆ. *Juss.*

1. Byrsonima *cotinifolia. H. B. K. Nov. Gen.* 5. *t.* 152. *t.* 447.—HAB. Acapulco and Tepic.

1. Galphimia *glauca. Cav. Ic.* 5. *p.* 61. *t.* 489.

2. G. *glandulosa. Cav. and De Cand. Prod.* 1. *p.* 582.—HAB. Talisco.

De Candolle conjectures that there are perhaps several species confused under this name, and certainly the shape of the leaves in our specimens, which appear to be var. α of De Candolle, is very different from what is represented by Cavanilles, Ic. 6. t. 563. In ours they are oval and obtuse, and in Cavanilles, which forms De Candolle's var. γ, they are lanceolate and much attenuated at both ends. The petals of this genus become hard, dry, and persist, and have a strong middle nerve, which is canaliculate on the upper side and slightly carinate on the under.

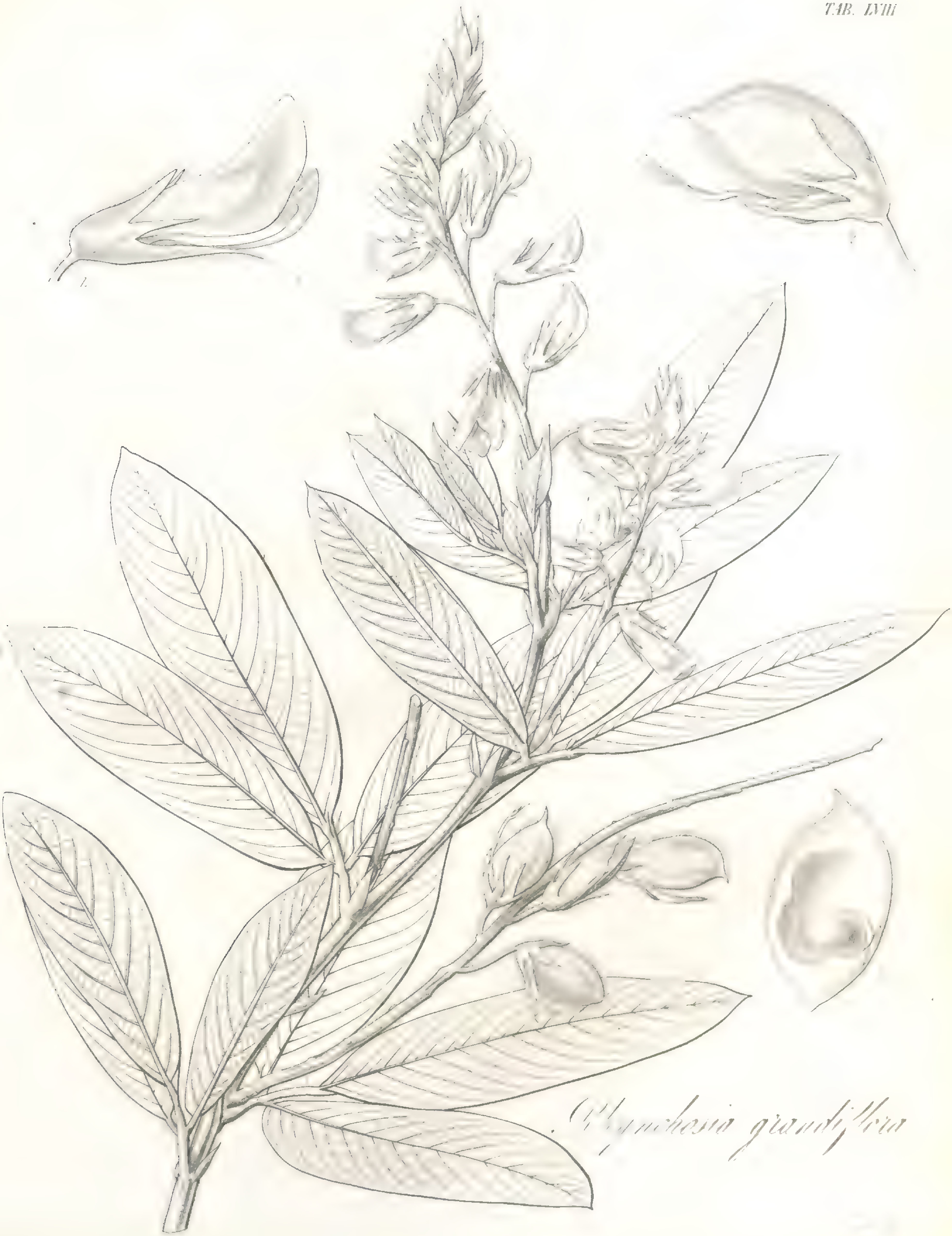
1. Hiræa *cycloptera;* scandens, foliis brevi-petiolatis ovali-oblongis vel oblongo-lanceolatis acuminatis acutis vel mucronatis utrinque hirsuto-villosis, petiolis eglandulosis, pedunculis hirsutis e summis axillis subcorymbosis, calycis laciniis biglandulosis, ovario hirsuto, carpellis glabratis. (TAB. LVIII.)—H. cycloptera. *Fl. Mex.? fide De Cand. Prod.* 1. *p.* 586.—HAB. Talisco and Tepic.

Calycis laciniæ certe biglandulosæ. Petala cordato-subrotunda longe unguiculata, dorso exalata, margine argute subciliato-denticulata, aurantiaca. Styli 3. Ovarium villoso-hirsutum. Carpella ala membranacea orbiculari subglabra cincta, dorso cristata. Embryo curvatus.

TAB. LVIII. Hiræa cycloptera. *Fig.* 1. Flower; *fig.* 2. Stamens and pistil; *fig.* 3. 3. Carpels, front and back view:—*magnified.*

1. Triopteris *sericea. Schlecht. in Linn.* 11. *p.* 243.

The largest leaves in the specimen before us are upwards of two inches long: those seen by Schlechtendal never exceeded one and three-quarters; which is the only point of difference we can perceive between our plant and his description.



Rhynchosia grandiflora

1. Tetrapteris *Mexicana;* foliis longiuscule petiolatis oblongo-lanceolatis acuminatis adultis utrinque glaberrimis, umbellis pedunculatis subquadrifloris axillaribus subbinis, petalis cordato-suborbiculatis basi cuneatis.—HAB. Talisco.

Folia juniora utrinque parce subsericea, adulta glaberrima, nervis subtus prominulis etiam glabris.

1. Heteropteris *tomentosa;* foliis subcoriaceis breve petiolatis ovatis obtusis cum mucrone margine recurvis supra velutinis subtus tomentosis rugosis versus basin glandulis paucis instructis, petiolo eglanduloso, floribus cymoso-paniculatis, paniculæ ramis eglandulosis calycibusque ferrugineo-tomentosis.—Bannisteria tomentosa. *Schlecht. in Linn.* 11. *p.* 244?—B. paniculata. *Fl. Mex. et De Cand. Prod.* 1. *p.* 591?—Heteropteris brachiata. *H. B. K. et De Cand. Prod.* 1. *p.* 591?

The fruit is that of *Heteropteris.*

ORD. XX. SAPINDACEÆ. *Juss.*

1. Sapindus *glabrescens;* rachi foliorum aptera pubescenti-tomentosa, foliolis 2-4-jugis oblongo-lanceolatis basi subinæqualibus integerrimis supra glabris subtus junioribus per totam paginam adultis versus nervum medium subvillosis, racemis terminalibus paniculatis, fructu globoso-subtrigono vix lobato.

2. S. *Drummondi;* petiolo aptero, rachi inter juga superiora submarginata pubescente, foliolis 3-4-jugis basi inæqualibus oblongo-lanceolatis acuminatis subfalcatis supra elevato-reticulatis subtus molliter pubescentibus, panicula terminali divaricata.—α; foliolis acute acuminatis. *Drummond Fl. Tex. III. n.* 54.—β; foliolis obtuse acuminatis.—Sapindus inæqualis. *Schlecht. in Linn.* 6. *p.* 419? (*vix Lam.*)

The specimens in the present collection belong to our second variety. We have not seen the fruit of either.

1. Thouinia *decandra. H. B. K. Pl. Æquin.* 1. *t.* 56.—HAB. Acapulco.

The stamens seem to vary from 8 to 10.

1. Cupania *scrobiculata. H. B. K. Nov. Gen.* 5. *p.* 127. *Schlecht. in Linn.* 6. *p.* 419.

1. Serjania *Mexicana;* foliis biternatis, petiolo nudo, petiolulis partialibus anguste alatis, foliolis oblongis ovatisve sæpius acuminatis inciso-dentatis cuneatim attenuatis utrinque glabris vel subtus puberulis nervo primario subtus sæpe molliter pubescente, axillis venarum pilosis, racemis compositis, carpellis apice pubescentibus alis deorsum dilatatis glabris.—S. mexicana. *Willd.?*—HAB. Acapulco and Tepic.

Our doubt as to this being Willdenow's plant arises from the stem being described as aculeated, even by De Candolle, who gives a reformed character from the figure in the *Flora Mexicana.* In our specimen there is certainly no appearance of prickles on the branches that bear the leaves and flowers; on the older branches or stem, however, from which the former arise, the (last year's?) peduncles are either wholly converted into stout tendrils, or are so completely abortive as to resemble sharp tubercles. Probably, therefore, as the

botanical character hitherto given seems to be derived almost entirely from figures, these tubercles are the prickles mentioned by authors; though we have no doubt but similar ones may be observed on most species of the genus.

1. Paullinia *fuscescens;* foliis biternatis, petiolo tereti, petiolulis anguste alatis, foliolis oblongis omnibus acutis vel obtusiusculis grosse crenato-serratis basi cuneato-attenuatis supra in nervo venisque hirtis alioquin puberulis subtus molliter tomentoso-hirtis aureo-fuscescentibus, capsulis globoso-pyriformibus tomentosis adultis glabrescentibus, valvis sursum carinato-alatis.—P. fuscescens. *H. B. K. Nov. Gen.* 5. *p.* 120?—P. pubescens. *De Cand.* 1. *p.* 606?—Hab. Acapulco.

Our specimens appear only to differ from Humboldt's by the shape of their leaflets. They seem also very closely allied to *P. velutina,* De Cand. (which probably does not differ from *P. mollis,* H. B. K.), but that has the petioles not margined.

1. Dodonæa *viscosa. Linn.*

The specimen in the collection appears to belong to the var. *α* of Kunth Syn. 3. p. 168.

Ord. XXI. AMPELIDEÆ. *De Cand.*

1. Cissus . . . .

The specimen is extremely mutilated: the leaves or leaflets (for they are lying loose on the sheet without any petiole by which we might conjecture whether they were simple or compound) are oblong-lanceolate, acuminated, glabrous, fleshy, and sharply toothed.

Ord. XXII. ZYGOPHYLLEÆ. *Br.*

1. Kallstrœmia *maxima.*—Tribulus maximus. *Linn.*—Hab. Acapulco.

Ehrenbergia tribuloides of Martius is another species, and seems to differ from the more common one by having the carpels crested at the back, and the colour of the flowers. Here the carpels are slightly muricated and wrinkled. *Tribulus trijugatus* of Nuttall is probably the same species; he, no doubt, attributes to it five one-seeded carpels, but as there is little doubt that his plant and the *Trib. maximus* of Elliott are identical, we learn from Elliott that there are ten seeds; and although Elliott hesitates about his being the true *T. maximus,* his description accords in every particular both with the West Indian and Mexican species.

Ord. XXIII. ZANTHOXYLEÆ. *Adr. de Juss.*

1. Zanthoxylon *Pterota. H. B. K.?* at forsan *Schlecht. in Linn.* 6. *p.* 426.

In our plant the leaflets are from four to eight pairs, about 12 or 14 lines long and 4-6 broad: the petiole and rachis have no prickles. In a plant allied to, or a variety of this, from Texas (Drummond, Tex. III. n. 68), the petiole is likewise unarmed, but the leaflets are much smaller, scarcely more than 4 or 5 lines long, and are obovate. The only prickles in both are in pairs at the base of the petioles, and are more or less curved.

A specimen of *Zanth. piperitum* is also in the Mexican collection, but we presume that it had been accidentally transferred from that made at Loo Choo and Bonin.

1. Brunellia? *quadrilocularis;* glabra inermis, foliis oppositis sublonge petiolatis late

ovalibus rotundatis integerrimis, pedunculis axillaribus petiolo dimidio brevioribus, carpellis 4 in fructum 4-locularem 4-lobatum loculicido-dehiscentem coalitis obtusis.

The internal structure of the carpels is not very dissimilar to that observed in *Brunellia* and *Zanthoxylon*. The fruit is dotted with reddish glands; the seed has a black shining testa. The leaves are so very obscurely dotted as almost to be impunctate: they are about 2½ to 3 inches long, and from 2 to 2¾ broad. In some respects it approaches *Zanthoxylon Aubletia*, De Cand., judging by De Candolle's short description; but that has the carpels quite distinct, according to M. Adrien de Jussieu.

ORD. XXIV. CONNARACEÆ. *Br.*

1. Rourea *glabra. H. B. K.?*—HAB. Acapulco.

2. R.? *oblongifolia;* foliolis 3-5 sub-alternis coriaceis oblongo-lanceolatis acuminatis glabris basi obtusis vel acutiusculis, floribus axillaribus paniculatis, carpellis subcylindricis.

The carpels are like those of *R. santaloides,* W. and A. The leaflets resemble in shape those of *Omphalobium Lamberti,* De Cand., but are smaller, and the carpels of that species are almost obovate. We have neither seen perfect flowers nor fruit.

ORD. XXV. CELASTRINEÆ.

1. Mygindus *Scoparia;* ramis virgatis elongatis quadrangulatis, foliis oppositis (parvis) remotis lanceolatis acuminatis glabris petiolatis argute serratis, pedunculis dichotomis cymoso-umbellatis paucifloris filiformibus folio 1½-4-plo longioribus.—Myginda Uragoga, var. foliis angustioribus. *Schlecht. in Linn.* 5. *p.* 603.—HAB. Acapulco.

This appears to be only suffruticose; but is evidently allied to *M. Rhacoma,* Sw.; it differs from *M. Uragoga,* by the glabrous leaves, besides other characters. The calyx is 4-lobed. Petals 4, with a broad base. Stamens 4, almost as in *Euonymus.* Style 1.

In the Mexican collection are specimens, probably misplaced, of what we have already described and figured as *Euonymus Japonicus.*

ORD. XXVI. RHAMNEÆ.

1. Rhamnus (Antirhamnus) *biniflorus; Moc. et Less. in De Cand. Prod.* 2. *p.* 26.—var.? pedunculis trifloris, foliis oblongis ovatis vel ovalibus acutis vel obtusis cum mucrone basi acutiusculis.—HAB. Talisco.

De Candolle compares his plant with *R. umbellatus,* Cav. Ic. 6. t. 504, but that species has the leaves almost sessile, while in our plant they are on rather long petioles. The segments of the calyx persist even while the fruit is ripe, as in *R. umbellatus,* and are not deciduous, as in *R. terniflorus,* De Cand., or *Colubrina triflora,* Brongn. We have not seen the petals, but Cavanilles represents them cucullate in the analogous *R. umbellatus.* The fruit is drupaceous: the nut is scarcely separable into nucules, but contains four cells, of which two appear always to be abortive, as well as sometimes one of the remaining two: the embryo is flat, as in the section *Frangula* of Brongniart. *R. Humboldtiana* is said to have the cells 2-seeded; but we are inclined to suppose that the dissepiment dividing the two seeds had been overlooked, and that it forms part of the group *Antirhamnus.*

ORD. XXVII. SAMYDEÆ. *Vent.*

1. Casearia *corymbosa. H. B. K.*—HAB. Acapulco.

ORD. XXVIII. TEREBINTHACEÆ.

1. Rhus *terebinthifolia. Schlecht. in Linn.* 5. *p.* 600.

Torus a five-crenated disk. Stamens 5, inserted under its margin. Petals 5, broad at the base, inserted under the disk. Sepals 5. Styles 3.

2. R. *aromatica. Ait.*—var. foliis subtus dense fulvo-tomentosis.

This differs in no respect from the species found in the United States and Canada, except in the leaves being much more tomentose and occasionally wrinkled. Rafinesque, De Candolle, and most botanists, place this and *R. suaveolens* in a distinct section, *Clibadium*, on account of there being supposed to be 2-lobed glands placed under the ovary, alternating with the stamens; but such is not the case: the torus or disk is orbicular, with 10 crenatures, two of which are between each pair of stamens, and have been mistaken for glands. The petals are slightly hairy on the inside, as in many *Sapindaceæ*, and indeed the whole plant bears no small resemblance to *Schmidelia*. There is one simple but very deeply trifid style, not three short styles as usually described.

1. Elaphrium *Jacquinianum;* ramulis teretibus superne ferrugineo-tomentosis, foliolis 7-9 grosse crenatis supra rugulosis hirtellis et nitidulis subtus molliter fuscescenti-tomentosis junioribus ferrugineis terminali subrhombeo-ovato, lateralibus inæquilateris, rachi alata, alis integerrimis. *Humb. et Kunth, Nov. Gen. v.* 7. *p.* 23. *t.* 613.—Fagara octandra. *L.?*—Elaphrium tomentosum. *Jacq. Am. t.* 71?—β; *glabrius*, rachidis ala sæpe crenata.

The figure above quoted is so faithful a representation of our plant, in every particular except the entire wing of the rachis, that we are not disposed to separate it from that species. Our specimens being very much advanced will account for the less tomentose foliage.

ORD. XXIX. LEGUMINOSÆ. *Juss.*

1. Sophora *tomentosa. L.*

1. Crotalaria *ovalis;* tota molliter hirsuta diffusa, stipulis acuminatis decurrentibus vel obsoletis, foliis simplicibus ovalibus subsessilibus, pedunculis elongatis oppositifoliis 4-6-floris, calycibus bibracteolatis vexillo vix brevioribus. (*Hook. in Bot. Mag. t.* 3006.) *Pursh, Am. Sept. v.* 2. *p.* 469.—C. sagittalis, γ, *ovalifolia. Mich.*

This exactly agrees with the *C. ovalis* figured in the *Botanical Magazine*, and which was raised from Mexican seeds.

2 C. *sagittalis. L.*

3. C. *dichotoma;* fruticosa diffusa, foliis ternatis cuneato-ellipticis pilosiusculis mucronatis, stipulis subulatis reflexis persistentibus, racemis oppositifoliis paucifloris. *Grah. in Bot. Mag. t.* 2714.—β; foliolis angustioribus longioribus.—HAB. β, Talisco.

4. C. *incana. L.*—β; foliolis obovato-lanceolatis subtus (præcipue foliis junioribus) aureo-sericeis.

This is probably a distinct species, but our materials are scarcely sufficient to afford good characters. It is smaller, the young branches and under-side of the leaves very silky, and often inclined to a golden hue. The leaflets are obovato-lanceolate.

5. C. *longirostrata;* suffruticosa, ramis elongatis glabris, foliis trifoliolatis, foliolis obovato-cuneatis obtusis mucronatis supra glabris viridibus subtus incanis brevissime appresso-pilosis, stipulis bracteisque minutis subulatis deciduis, racemis elongatis multifloris terminalibus lateralibusque, calycibus glabriusculis, carina longe rostrata.—Hab. Talisco.

This seems to be a tall growing plant, with small leaves, the leaflets but little more than half an inch long: the racemes a span long, many-flowered; the beak of the carina, which is suddenly curved up at an angle, is very long, and not at all ciliated.

1. Trifolium *repens. L.?*

The head of flowers is metamorphosed into small leaves.

1. Dalea *verbenacea;* sericeo-tomentosa erecta ramosa fruticosa, foliolis bijugis cum impari obovatis subtus præcipue nigro-punctatis, stipulis bracteisque subulatis, spicis in ramis copiosos terminalibus oblongo-cylindraceis, calycibus striatis subeglandulosis.—D. verbenacea. *Schlecht. in Linn. v. 5. p. 579. Klotzsch in Herb. Nostr.*—β, *sericea.*—Hab. Talisco.

Of this plant we possess a specimen gathered in Mexico by Schiede, and named *D. verbenacea*, from the Berlin Museum. It is a little less silky than our plant, but in other respects the same. The stems are woody, tall, much branched, and almost every branch is terminated with a spike of purple flowers, having very silky calyces, and of which spike the rachis is very thick, cylindrical, pitted with depressions for receiving the flowers. Legume ovato-subrotund, laterally compressed, indehiscent, 1-seeded.

2. D. *argyrostachys;* erecta ramosa fruticosa, foliolis 10-14-jugis ellipticis carnosis parvis brevissime petiolulatis glabris subtus grosse nigro-punctatis, rachi plana ad insertionem foliolis dentata, spicis terminalibus elongatis, bracteis lanceolato-acuminatis deciduis calycibusque pulcherrime nitido-sericeis, dentibus calycinis subulatis longitudine florum.

At first sight this has the appearance of *D. alopecuroides;* but the stems are altogether shrubby, the leaves fleshy, and the leaflets smaller, decidedly elliptical, obtuse at the base, where the little petiole is inserted. The rachis is broad and flat. The spikes are long and broad (in consequence of the rather large flowers), most beautifully silky, and the teeth of the calyx are equal in length with the corolla, which latter appears to be yellow.

3. D. *crenulata;* fruticosa glaberrima ramosa, ramis erectis virgatis brevibus, foliis sæpe in ramos brevissimos floriferos, foliolis 3-6-jugis parvis ellipticis crenulatis supra (sub lente) oblique lineatis, racemis brevibus plurifloris, calycibus obovatis sulcatis dentibus late ovatis acutis brevibus, petalis longe exsertis, bracteis minutissimis.

Whole shrub of a dark-purplish hue, as is the following.—A most distinct and well-marked species. Every leaflet is distinctly crenulated all round the margin. Found at Talisco.

4. D. *gracilis;* fruticosa paniculatim ramosa, ramis divaricatis gracillimis filiformibus, foliolis 4-6-jugis oblongo-obovatis integerrimis supra oblique lineatis, racemis terminalibus laxis paucifloris, calycibus obovatis sulcatis dentibus late ovatis acutis brevibus, legumine triangulari-compresso.

This species and the foregoing differ considerably in habit from the other *Daleæ* that are known to us, especially in the lineated upper side of the leaves, the absence of black glandular dots, the decidedly racemed fructification, deeply furrowed calyces, with sometimes glands (which are not discoloured) between the furrows. The petals are very deep and bright purple.

(There is still a 5th and very distinct-looking species of *Dalea* in the collection, but too imperfect to justify our framing a specific character for it. It is annual, throwing up several branches from the base, which are long, twiggy, green, striated, and glabrous. The few imperfect leaves show that the leaflets are 4-5-jugate, linear-oblong, glabrous, with black glandular dots beneath. Spikes terminal, on short branches, ovato-cylindrical, dense. Bracteas ovate, aristate, ciliate, as large as the calyx, with large black glands on the back. Calyx with long hairs and long setaceous, ciliated teeth.)

1. Tephrosia *toxicaria. Pers.—Plum. Ic. t.* 135.

This seems a very variable species in the size of the leaves and number of the leaflets. It is the same, however, as what we have received from Guiana and the West Indies, and which we believe to be the true *T. toxicaria.*

1. Indigofera *Anil. L.*

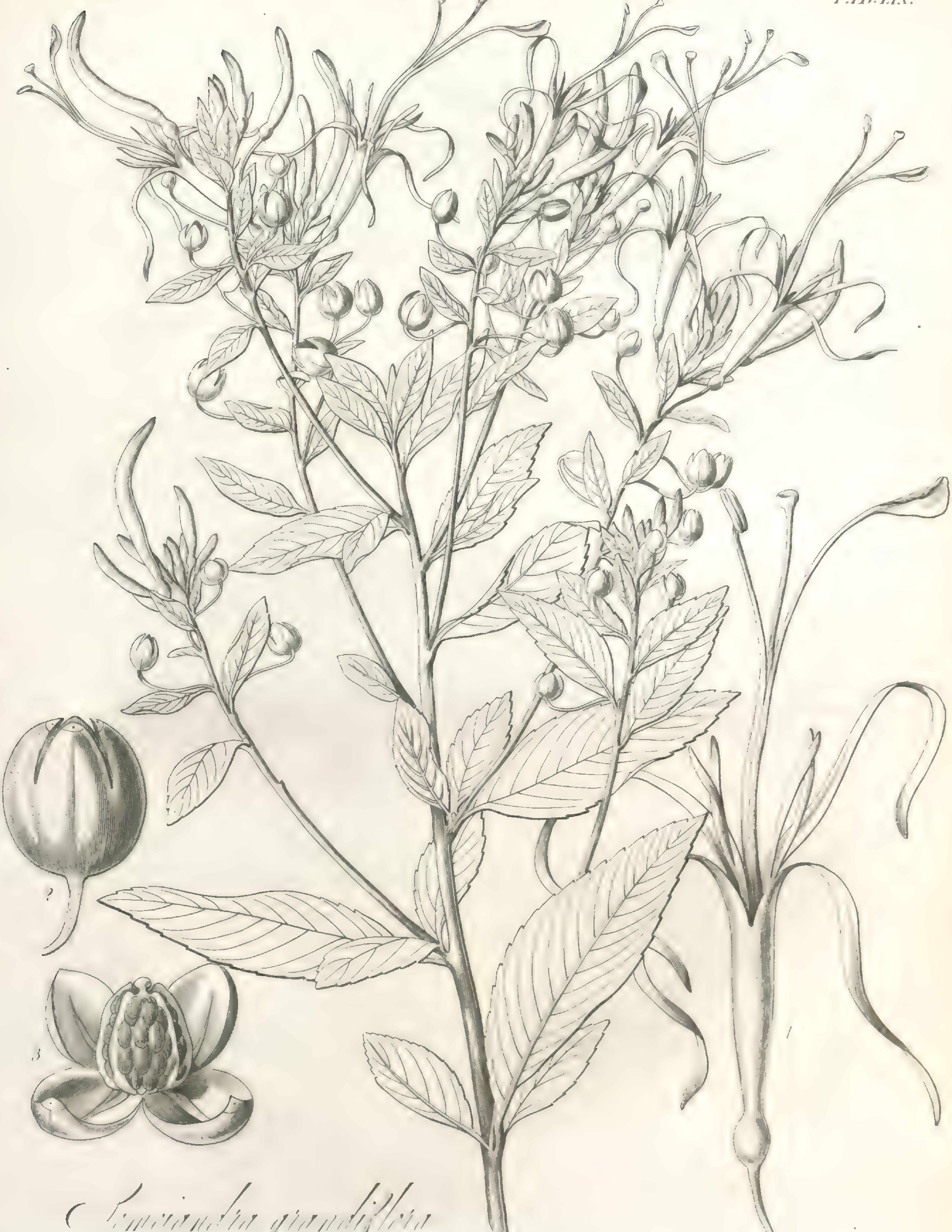
2. I. *torulosa;* erecta fruticosa laxa ramosa, foliolis ellipticis mucronatis 4-6-jugis appresso-pubescentibus, racemis fructificantibus elongatis folio longioribus, leguminibus erectis longe cylindraceis torulosis subarticulatis longe rostratis.

A very remarkable species of *Indigofera*, with large leaflets, some of them nearly an inch in length, and legumes nearly 2 inches long, erect, slender, 8-10-seeded, much contracted between the seeds, and internally separated by dissepiments as in *Sesbania,* yet in other respects the habit and pubescence are quite those of the present genus. *Ind. galegoides*, DC. n. 39, from Ceylon, has the foliage and the long erect beaked legumes of this plant, but the fruit is broader and not torulose. *I. Domingensis* and *I. disperma* are described as having torulose fruit, but their other characters are extremely different from our species.

1. Neurocarpum *multiflorum;* fruticosum volubile, foliis sublonge petiolatis trifoliolatis, foliolis petiolulatis ovato-ellipticis lateralibus obliquis omnibus coriaceo-membranaceis supra glabris reticulatim venosis subtus pubescenti-hirsutis, racemis multifloris, legumine lato-lanceolato acuto basin versus contracto pubescenti-velutino.

We possess no flowers of this species. The legume is 3 inches long and $\frac{3}{4}$ of an inch in its greatest diameter, compressed, clothed with tawny velvety down, with a strong prominent nerve running the whole length through the middle of each valve. The peduncles evidently have many flowers, and in the old flower-stalks there is a large tubercle at the insertion of each pedicel.

1. Sesbania *tomentosa;* ubique molliter tomentosa fruticosa, foliolis 8-10-jugis oblongo-ellipticis utrinque obtusis supra (sub lente) minutissime atro-punctulatis, racemis folio brevioribus, leguminibus longis gracilibus teretiusculis cuneatis glabris vix torulosis folia æquantibus longe rostratis.—HAB. Acapulco.



Semeiandra grandiflora

A very fine and distinct species, exceedingly tomentose, with large, apparently white flowers, and leaflets nearly an inch long. The young foliage and branches are almost silky and tawny.

1. Stylosanthes *viscosa. Sw.*—Probably also *S. glutinosa, H. B. K. Nov. Gen. t.* 596, but the plant is larger and stouter in every part, and the leaflets are narrower.—Hab. Talisco.

1. Æschynomyne *hirsuta. DC.—Schlecht. in Linn.* 5. *p.* 583.—Hab. Talisco.

1. Desmodium *plicatum. Schlecht. in Linn.* 5. *p.* 585, *et in Herb. Nostr.*—*β, compactum ;* foliis floribusque magis densis, foliolis latioribus magis coriaceis.

This species, of which we have two varieties in the collection, is well described by Professor Schlechtendal in the place above quoted.

2. D. *cinereum. DC.*—Hedysarum cinereum. *DC. et H. B. K.—Poeppig, Herb. Cub.* —Hab. Talisco.

3. D. *triflorum. DC.—Schlecht. in Linn.* 5. *p.* 584.—Hab. Talisco.

1. Rhynchosia *grandiflora ;* fruticosa subvolubilis rufescenti-hirta, foliis ternatis brevissime petiolatis oblongis mucronatis, venis utrinsecus 10-15, racemis terminalibus axillaribusque, calycibus vexilloque sericeo-hirsutis, leguminibus ovalibus compressis oblique rostratis villosissimis. (Tab. LIX.)—*Schlecht. in Linn.* 5. *p.* 588.—Hab. Talisco.

Schlechtendal has well observed that this is closely allied to *Rhynchosia* (*Glycine,* H. B. K.) *rufa,* Humb. Nov. Gen. t. 574 ; differing, however, in its larger flowers, longer leaves, and the more numerous primary veins.

Tab. LIX. Rhynchosia grandiflora. *Fig.* 1. Flower ; *fig.* 2. Legume ; *fig.* 3. Valve of do., with a seed : —*magnified.*

2. R. *Mexicana ;* volubilis gracilis pubescens, foliis trifoliolatis, foliolis rhombeo-ovatis latis acutissimis lateralibus subsessilibus obliquis, intermedio petiolulato, pedunculis axillaribus folio longioribus racemosis, vexillo pubescente, leguminibus oblongis pendulis pubescenti-hirsutis dispermis.

Very small and imperfect are the specimens of this plant in the Herbarium. Every part, save the inner petals, is downy. The legumes are scarcely ½ an inch, the leaflets 2 inches long.

1. Phaseolus *micranthus ;* annuus ? hispido-hirsutus volubilis gracilis, foliolis rhombeo-ovatis integerrimis, stipulis stipellisque ovatis striatis, pedunculis laxe racemosis folia duplo triplove superantibus, calycibus hispidis, leguminibus lato-lineari-oblongis falcatis planis sub 7-spermis.—Hab. Talisco.

Leaflets, the largest of them, an inch or rather more long. Flowers small, yellow and purple.

1. Inga *pungens. Humb. et Willd.—DC.—Schlecht. in Linn.* 5. *p.* 692.—Hab. Acapulco.

1. Mimosa *asperata. Willd.—DC.—Schlecht. in Linn.* 5. *p.* 591.

2. M. *floribunda. Willd.—DC.—Schlecht. in Linn.* 5. *p.* 591.

1. Schrankia *aculeata. Willd.—DC.—Schlecht. in Linn.* 5. *p.* 593.

1. Prosopis *horrida. Kunth, Mim. p.* 116. *t.* 33.

The spines in our plant are strong, about an inch in length.

1. Acacia *filicina? Willd.—DC.*—Mimosa filicioides. *Cav. Ic.* 1. *t.* 78?—Hab. Talisco.

2. A. *revoluta. Kunth, Mim. p.* 34. *t.* 26.

3. A. *Acapulcencis. Kunth, Mim. p.* 78. *t.* 24.

Leaves only of this plant are in the herbarium from Acapulco.

1. Brongniartia *glabrata;* foliolis 3-4-jugis lato-ellipticis obovatisve retusis mucronatis supra ramisque glaberrimis subtus (oculo armato) minutissime pubescenti-scabris, stipulis nullis aut deciduis, carina maxima.

In general habit this species very much resembles the *B. podalyrioides* of H. B. K. t. 588; but the leaflets are fewer and almost entirely glabrous, the stipules are wholly wanting or they soon fall away, and the carina is remarkably large in proportion to the rest of the flower. There can be no doubt of its belonging to this genus, which again, perhaps, as De Candolle suggests, should be united with *Peraltea* of H. B. K.

1. Cæsalpinia *exostemma? Fl. Mex. Ic. ined. DC. Prod.* 2. *p.* 483.

1. Cassia *puberula? H. B. K. Nov. Gen.* 6. *p.* 341.

Our specimens have no perfect flowers, and no fruit. The leaflets are many of them 4 inches long.

2. C. *pauciflora? H. B. K. Nov. Gen.* 6. *p.* 360.

If ours be the true plant, it is glandular and viscid in every part, very woody, with much branched stems. Leaves copious. Leaflets obovate. Racemes few-flowered, reddish-orange coloured. Legumes oblongo-lanceolate, compressed, hirsute or almost hispid, 1-celled, about 5-seeded.

3. C. *fabaginifolia. H. B. K. Nov. Gen.* 6. *p.* 363.—*DC.*—Hab. Talisco.

1. Bauhinia *Lunaria. Cav. Ic.* 5. *t.* 407.—Hab. Acapulco.

Obs. We are obliged to omit the insertion of two other species of *Bauhinia*, and several *Leguminosæ*, on account of the very insufficient specimens.

Ord. XXX. ROSACEÆ. *Juss.*

Of this Order there are two species in the collection, but both appear to have been placed there by accident, and were probably gathered at Loo Choo or Bonin. One is *Photinia serrulata*, Lindl., a variety with oblong-obovate rather obtuse leaves, the serratures of which are bluntish, and may almost be called crenatures. The other is our *Rhaphiolepis integerrima;* but in the specimen now before us, although many of the leaves be quite entire, others are crenato-serrated. This appears, therefore, to be *Cratægus lævis* of Thunberg, which is usually considered a *Photinia*, but has certainly not the calyx or fruit of that genus.

Ord. XXXI. LYTHRARIEÆ. *Juss.*

1. Heimia *salicifolia. Link et Otto.*—Neesæa salicifolia. *H. B. K. Nov. Gen.* 6. *p.* 192.

From this we scarcely think that *H. siphilitica*, De Cand., specifically differs.

1. Ammannia *catholica.* var. *Schlecht. in Linnæa,* 5. *p.* 568.

The specimen is unique, and very much advanced, so that we have not seen the petals, nor do we know how, in this state, it may be distinguished from *A. occidentalis,* De Cand., which may therefore prove the same species.

2. A. *sanguinolenta. Sw.—De Cand. Prod.* 3. *p.* 80. *Schlecht. in Linnæa,* 5. *p.* 568.

The petals, in a dry state, are not of a blood-colour, but very pale pink.

1. Cuphea *bracteata;* fruticulosa patens, ramulis calycibusque patentim hirto-pubescentibus, foliis ovato-lanceolatis acuminatis basi subcordatis subsessilibus utrinque hirto-pubescentibus, pedicellis unifloris solitariis vel binis supra axillaribus alternis folio florali 2-4-plo brevioribus, calycibus 6-7 lin. longis basi gibbis, petalis 6 duobus obovato-oblongis (3-4 lineas longis) cæteris pusillis cito marcescentibus, staminibus 12? inclusis alternis pilosis, ovario sub 14-ovulato styloque glaberrimis.—C. bracteata. *Lag.?*

Hab. Talisco.—The longer and unguiculate petals are purple, the others (when dry) pale. It appears to belong to De Candolle's section "*Fruticosæ.*"

2. C. *tenella;* annua ramosa, ramis gracilibus puberulis, foliis angusto-lanceolatis obtuse acuminatis basi in petiolum attenuatis utrinque glabris vel minute puberulis, pedicellis capillaribus oppositis (nunc alternis) folium florale æquantibus, calyce fructifero anguste oblongo basi subæquali glabro glanduloso punctato, petalis minutis, stylo brevi pubescenti, fructu 21-24 spermo.

Calyces floriferi vix lineam superantes, subcylindracei; fructiferi 1-sesquilineam longi, anguste ampullacei, collo oreque obliquis.

We have not ascertained satisfactorily the number of stamens, although there are at least eleven, and we think twelve; they are all included within the tube of the calyx; the number of petals is also doubtful, but appears to be six.

3. C. *floribunda;* caule fruticoso ramoso, ramis elongatis scabris, foliis oblongo-lanceolatis acuminatis basi in petiolum longiusculum attenuatis utrinque nitidulis scabris, floribus racemosis in paniculas secundas sæpius digestis, ramis inflorescentiæ bracteisque linearibus patentim glanduloso-hirsutis, calycibus deflexis arcuatis basi obtuse calcaratis pubescenti-viscosis ore intus villosis, ovario 18-21-ovulato apice in stylum exsertum glabrum sensim attenuato.

Hab. Talisco and Tepic.—The calyx is red, and resembles that of *C. Melvillæ,* but is not above eight or nine lines long. The two tolerably large petals (1½-2 lines long) are of a deep blood-red colour, the others we have not observed. There seem to be eleven stamens, all of them included. It obviously approaches to *C. secundiflora,* Fl. Mex., which we at one time thought it might be; but that is said to be an annual, or at all events an herbaceous plant. It is also much allied to *C. Melvillæ,* but that has longer calyces and no petals.

4. C. *barbigera;* caule fruticoso? scabro, foliis subsessilibus utrinque hispidis oblongis basi obtusis apice acutiusculis, pedicellis brevibus extra-axillaribus terminalibus racemoso-spicatis subsecundis, calycibus longe tubulosis basi obtuse calcaratis hirsutis, petalis

duobus, staminibus 12? subexsertis, filamentis quibusdam (3 vel 4?) nudis cæteris valde purpureo-lanatis duobus etiam ultra antheram purpureo-barbatis, stylo glabro incluso.

HAB. Talisco.—This resembles, in some points, *C. procumbens*, Cav., but that has a much shorter flower, and the hairs on the calyx glandular. We judge that the terminal flowers form a spike-like raceme, from the appearance of one from which every flower has fallen off from the short pedicels. The tube of the calyx is rather more than an inch long.

5. C. *equipetala. Cav.*—HAB. Talisco.

ORD. XXXII. RHIZOPHOREÆ. *Br.*

1. Rhizophora *Mangle. Linn.*

ORD. XXXIII. COMBRETACEÆ. *Br.*

1. Terminalia *Cataffa. Linn.*

From the appearance of the specimens, we suspect that they were collected at the same time, and along with, those noticed from Loo Choo and Bonin. But we believe the species, or a variety of it, is also a native of Mexico.

1. Conocarpa *erecta. H. B. K.*

1. Combretum *farinosum. H. B. K. Nov. Gen.* 6. *p.* 110.—*Schlecht. in Linn.* 5. *p.* 558. —HAB. Acapulco and Tepic.

2. C. *Mexicanum. H. and Bonpl. Pl. Equin.* 2. *t.* 132?

HAB. Acapulco.—The petals of our plant are yellow; the fruit is oblong and 4-winged.

ORD. XXXIV. MELASTOMACEÆ. *Juss.*

1. Conostegia *Xalapensis. Don.*—*De Cand. Prod.* 3. *p.* 175. *Schlecht. in Linn.* 5. *p.* 562.—HAB. Talisco.

Folia in nostris oblongo-lanceolata basi subcordata, ciliato-serrata; alabastrum ovatum apice acutiusculum. Petala rosea. Cætera ut in *Melastomata Xalapensi* Bonpl. videntur.

HETEROCENTRON. *Nov. Gen.*

Calyx campanulatus, membranaceus, extus adpresse setosus; limbus quadripartitus, segmentis lanceolatis acuminatis persistentibus absque appendicibus alternantibus. *Petala* 4, late obovata. *Stamina* 8, quatuor longiora. *Antheræ* oblongæ erostratæ obtusæ uniporosæ: longiorum connectivo stipitato ad articulationem setis duabus subclavatis instructo, breviorum basi bigibboso. *Ovarium* liberum apice nudum. *Stylus* filiformis. *Stigma* acutum. *Capsula* inclusa, 4-locularis, apice loculicido-quadrivalvis.—Caulis *basi lignosus.* Ramuli *tetragoni hispidi.* Folia *petiolata oblonga integerrima utrinque setosa, penninervia!* (1½-2 *poll. longa,* 8 *lineas lata).* Flores *albi thyrsoidei, terminales, subpaniculati.*

1. H. *Mexicana.*

This plant does not accord with any of the genera described by De Candolle. It belongs to the *Rhexiaceæ*, but is, nevertheless, allied to *Castradenia* of G. Don (*Gen. Syst. Gard.* 2. *p.* 765), formed for the *Rhexia inæquilateralis* of Schlechtendal (*Linnæa.* 5. *p.* 567); in that, however, the connectivum of all the stamens seems to be stipitate, the ovarium to be crowned with a few hairs, the inflorescence to be axillary, and the pair of opposite leaves to be unequal.

ORD. XXXV. MYRTACEÆ. *Juss.*

1. Myrtus *communis. Linn.?*

This differs slightly from the European forms, by the ends of the young branches being covered with a rusty pubescence, and by the larger fruit (5-6 lines in diameter). We have not seen the flower, but so far as we can judge by the remains of the calyx-limb, the segments are obtuse, and often four or five in number. The structure of the seed is that of a true *Myrtus*.

1. Eugenia? *Capuli. Schlecht. in Linn.* 5. *p.* 561.

HAB. Acapulco.—According to Messrs Lay and Collie, this is called by the inhabitants *Capolin*.

ORD. XXXVI. ONAGRARIEÆ. *Juss.*

1. Jussieua *salicifolia. H. B. K.?*—at tote planta subpubescens, et pedicelli atque fructus ebracteolati.

2. J. *peploides. H. B. K.*—HAB. Talisco.

3. J. *hirta. Vahl. ?—var.* pedicellis bracteolas subulatas minutas 1-2 ferentibus.

1. Lopezia *hirsuta. Jacq.*—HAB. Talisco and Tepic.

SEMEIANDRA. *Nov. Gen.*

Calyx ovario cohærens, ultra ovarium longe productus, inæqualiter infundibuliformis, ad medium in lacinias quatuor lanceolato-lineares elongatas pendulas fissus, lacinia posteriore paullo breviore. *Petala* quatuor, angustissime linearia, laciniis calycinis breviora, duo inter lacin. calycis posteriorem et laterales in sinubus orta; duo ad basin utrinque anterioris paullum adnata. *Stamina* duo, una cum stylo in columnam subcarnosam longe exsertam tubo calycis toto secus sepalum posterius adnatam connata, superne libera: unum (posterius) in ligulam petaloideam apice expansum; alterum (anterius) antheriferum. *Anthera* oscillatoria, bilocularis, loculis parallelis. *Ovarium* quadriloculare, multiovulatum. *Stylus* apice subulatus. *Stigma* capitatum. *Capsula* globosa, 4-locularis, loculicide quadrivalvis, polysperma: dissepimentis placentæ centrali adnatis persistentibus. *Semina* ovoidea, minuta, muriculata.—Frutex *pubescens.* Folia *opposita vel alterna, ovata vel oblonga, utrinque pubescentia, basi in petiolum attenuata subintegerrima.* Racemi *terminales foliosi: pedicelli graciles folium florale superantes, fructiferi deflexi, sub fructu incurvi.* Flos *sanguineus, sesquipollicem longus.*

1. S. *grandiflora.* (TAB. LIX.)

Affinis *Lopeziæ* ob stamina duo, uno fertili, altero apice petaloideo, at recedit calycis limbo ultra ovarium producto. Habitus quadammodo *Zauschneriæ*, at charactere multum differt.

TAB. LIX. Semeiandra grandiflora. *Fig.* 1. Flower; *fig.* 2. Capsule; *fig.* 3. Capsule laid open, showing the seeds in the inner angles of the cells:—*magnified.*

DIPLANDRA. *Nov. Gen.*

Calycis limbus alte quadrifidus, paullo curvatus, laciniis duabus superioribus inter se fere ab apice sæpius cohærentibus. *Petala* quatuor, rotundato-obovata, inclusa, ad basin laciniarum calycis inserta, inæqualia, posterius majus. *Stamina* duo, antherifera, inter se et a stylo libera. *Antheræ* oblongo-lineares, oscillatoriæ. *Ovarium* quadriloculare. *Stylus* filiformis, inclusus. *Stigma* parvum, capitatum. *Capsula* nuda, globosa, quadrilocularis (nunc abortu trilocularis), apice loculicide quadrivalvis, dissepimentis placentæ centrali adnatis.

persistentibus. *Semina* in quoque loculo solitaria, ala brevi marginata.—Frutex *pubescens, ramosus.* Folia *opposita subsessilia, oblongo-lanceolata utrinque pubescentia, subintegerrima.* Flores *longe pedicellati, corymboso-racemosi, terminales: alabastrum obovoideum, obliquum.* Petala *purpurea.*

1. D. *lopezioides.* (Tab. LX.)

The immature seeds are flat, compressed; we have not observed more than one ovule in each cell of the ovarium. This genus connects *Lopezia* with *Hauya.*

Tab. LX. Diplandra lopezioides. *Fig.* 1. Flower; *fig.* 2. The same laid open; *fig.* 3. Capsule; *fig.* 4. Capsule laid open; *fig.* 5. Receptacles and dissepiments; *fig.* 6. Outer; and *fig.* 7. inner view of a seed:—*magnified.*

Ord. XXXVII. CUCURBITACEÆ. *Juss.*

1. Elaterium? *quinquefidum;* caule glabro, foliis glabriusculis cordato-suborbicularibus subquinquefidis sinuato-crenatis, lobo terminali acuminato cæteris sinubusque rotundatis, cirrhis bifidis, floribus masculis subumbellatis longe pedunculatis, femineis subsessilibus solitariis, fructu (nucis *Juglandis regiæ* fere magnitudine) glabro parce echinato.

Hab. Acapulco.—We cannot make out whether the fruit, before being pressed, was reniform, as in others of the genus, or ovoid.

1. Momordica *Balsamina. Linn.*

1. Sicyos *vitifolius;* caule sulcato subtriquetro pube glanduloso scabriusculo, foliis cordato-subrotundis quinquelobis scabris, lobis latis obtusis subdenticulatis, cirrhis subbifidis, floribus masculis subcorymbosis longe pedunculatis, femineis glomeratis breve pedunculatis, fructibus ovatis longe spinuliferis, spinis obscabris, seminibus ovoideis utrinque obtusis.—S. vitifolius. *Willd.?*

The fruit is about a line and a half or two lines long, and the spines about the same length.

1. Anguria? *dubia?* caule stricto, foliis profunde trilobis basi cuneatis supra scabris subtus hirsuto-pubescentibus, sinubus obtusis, lobis cuneato-oblongis serratis obtusiusculis mucronatis, floribus masculis racemosis, femineis in eadem axilla subternis pedicellatis.

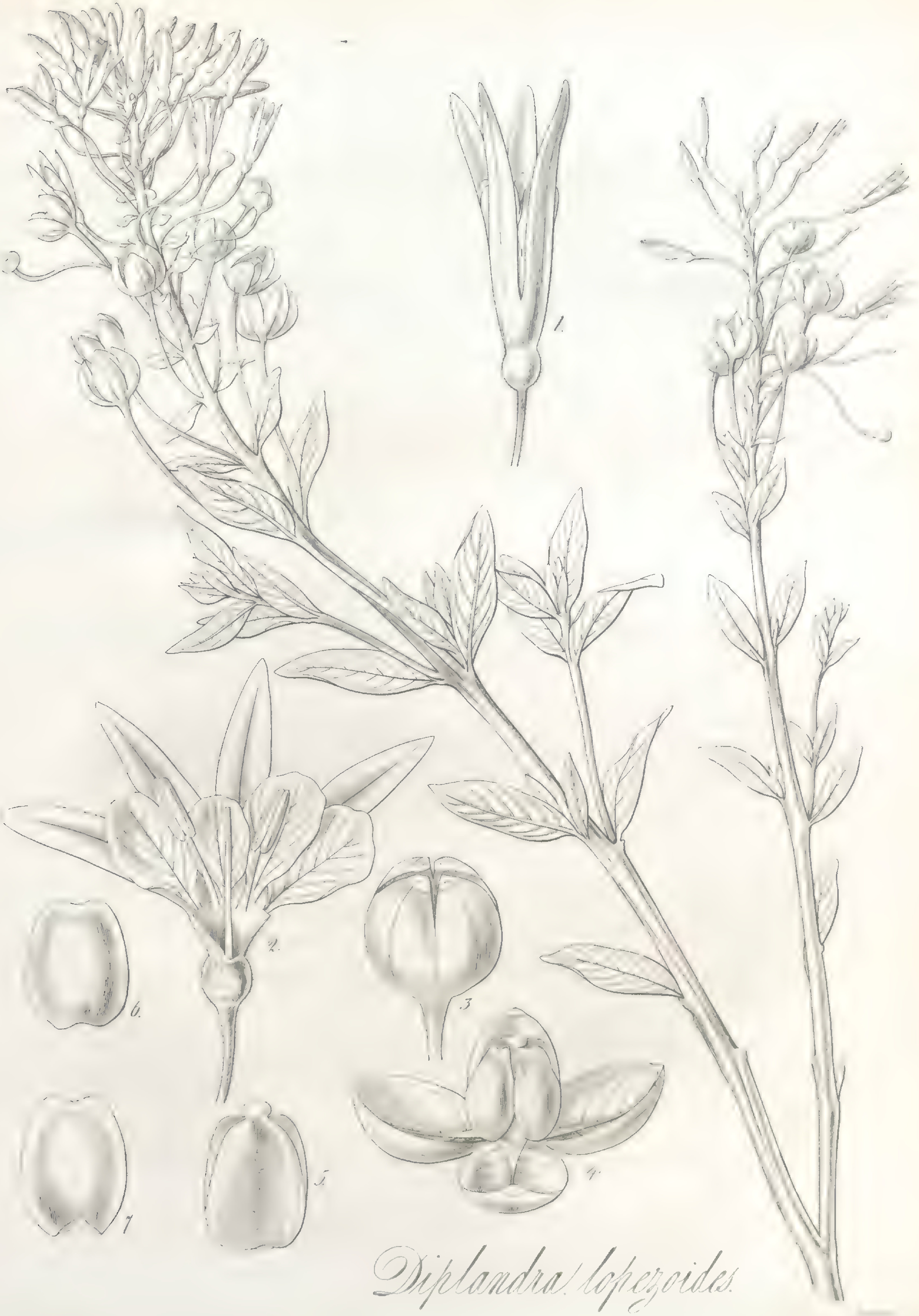
We have described the position of the flowers of this plant, from the remains of the peduncles and pedicels; both flowers and fruit have fallen off. The genus, therefore, is very obscure; it has more the habit of *Tacsonia* or *Passiflora* than of the *Cucurbitaceæ,* but there are no glands on the leaves or petioles, and the cirrhi are lateral.

Ord. XXXVIII. PASSIFLOREÆ. *Juss.*

1. Passiflora *viridiflora. Cav. Ic.* 5. *tab.* 424.—P. tubiflora. *H. B. K. Nov. Gen.* 2. *p.* 139? *De Cand. Prod.* 3. *p.* 332?—Tacsonia? viridiflora. *Juss.—De Cand. l. c. p.* 336.

Hab. Acapulco.—Judging from the description, we do not conceive that Humboldt's plant differs in the smallest degree from that of Cavanilles. In ours, the pedicels are sometimes solitary, sometimes in pairs. The fruit is almost globose, six or seven lines in diameter, supported on a stalk about an inch and a quarter long. The seeds are compressed, oval, acute at both ends, whitish, and deeply filled with wrinkles. It

TAB. LX.



Diplandra lopezoides.

differs from *Tacsonia* by the calyx being only five-cleft, and the want of bracteas; from *Passiflora,* by the tube of the calyx being as long as the segments; from *Murucuja,* by the structure of the corona; but it is perhaps nearest this last.

2. P. *pannosa;* caule petiolisque eglandulosis velutinis, foliis utrinque velutino-hirsutis subtus albidis eglandulosis cordato-orbiculatis apice trilobis, lobis ovatis obtusis submucronatis medio minore, stipulis lanceolato-subulatis, pedicellis axillaribus solitariis vel geminis, calyce 5-fido piloso bracteis tribus discretis orbiculatis breviter acuminatis concavis integerrimis vel apice paucidentatis suffulto, laciniis linearibus tubo triplo longioribus, ovario subpiloso.—P. pannosa. *Smith? De Cand. Prod.* 3. *p.* 325?

Hab. Talisco.—This, having large bracteas, and a five-cleft calyx, differs from all other species which we know, and even from all the sections of the genus proposed by De Candolle. We have little doubt of its being Smith's plant.

Ord. XXXIX. TURNERACEÆ. *DC.*

1. Turnera *tomentosa. H. B. K.?*

We have not seen the flowers.

Ord. XL. FOUQUIERACEÆ. *DC.*

1. Fouquiera *formosa. Kunth.*—Hab. Talisco.

Ord. XLI. PORTULACEÆ. *Juss.*

1. Portulaca *pilosa. Sm.—var.?* foliis anguste oblongis obtusis trilinearibus.

Ord. XLII. FICOIDEÆ. *Juss.*

1. Glinus *dictamnoides. Linn.*—Pharnaceum pentagynum. *Roxb.*—Holosteum hirsutum. *Linn.?*

1. Tetragonia *expansa. Ait.*

Perhaps both this and the last belong to the Loo Choo collection.

Ord. XLIII. UMBELLIFERÆ. *Juss.*

1. Hydrocotyle *asiatica. Linn.*

Most probably this also belongs to the Loo Choo or Bonin collection.

1. Eryngium *pectinatum. Presl.—De Cand. Prod.* 4. *p.* 96.—*var.* foliorum dentibus geminatis utroque folii latitudine longiore, involucri foliolis quibusdam integerrimis.

The habit of our plant resembles *E. paniculatum* and *E. aquaticum,* but some of the leaflets of the involucrum are toothed, and the teeth of the leaves are in pairs. The capitula are nearly globose.

2. E. *Cervantesii. De Laroche?*—Hab. Talisco.

3. E. *tenue;* caule tenui simpliciusculo apice subcorymbosim ramoso, foliis radicalibus

. . . . . . , caulinis petiolatis apice palmatifidis spinoso-serratis, floralibus capitulo breve pedunculato ovali approximatis sessilibus ovato-lanceolatis inciso-spinosis parvis, involucri foliolis lanceolato-subulatis integerrimis capitulo brevioribus paleis consimilibus.—Hab. Talisco.

Caules 6-7-pollicares. Capitula lineas duas longa.

4. E. *Beecheyanum;* caule erecto striato simplici apice corymboso, foliis radicalibus lineari-oblongis basi attenuatis serraturis acuminato-spinosis a basi ad apicem instructis, caulinis subsessilibus basi serrato-pinnatifidis apice palmato-partitis, capitulis pedunculatis ovalibus comosis, involucri foliolis 9 capitulum subæquantibus lanceolato-subulatis integerrimis vel sæpius utrinque unidentatis, paleis integris, fructu minute papuloso.—Hab. Talisco.

Caulis vix pedalis. Capitula semipollicaria.

1. Pastinaca *sativa. Linn.*

Probably cultivated.

Ord. XLIV. ARALIACEÆ. *Juss.*

1. Hedera *arborea;* foliis simplicibus late ovalibus basi apice rotundatis vel ovatis acuminatis, floribus umbellatis, umbellis racemosis superioribusve subumbellatis longe pedunculatis, pedunculis patentibus vel deflexis, stylis in unicum pentagonum conicum coadunatis.—*H. arborea. Sw.? De Cand.? Prod.* 4. *p.* 262?

Petala quinque, libera, calycis margo quinquecrenatus.

Of this order we find two other species in the collection, both without leaves. The one is from Talisco, and has the flowers capitate, the capitula peduncled and disposed in a raceme, as in many species of *Actinophyllum* and *Hedera*, but has only two styles, as in *Panax*, to the known species of which it has little resemblance. In the other, from Tepic, the flowers are umbellate, from fifteen to thirty in each umbel: these umbels form a corymbose pannicle, the branches of which are covered with a mealy pubescence that is easily rubbed off; there are five styles, which are united into one to near the middle, the upper portion being recurved. This is perhaps *Aralia pubescens.*

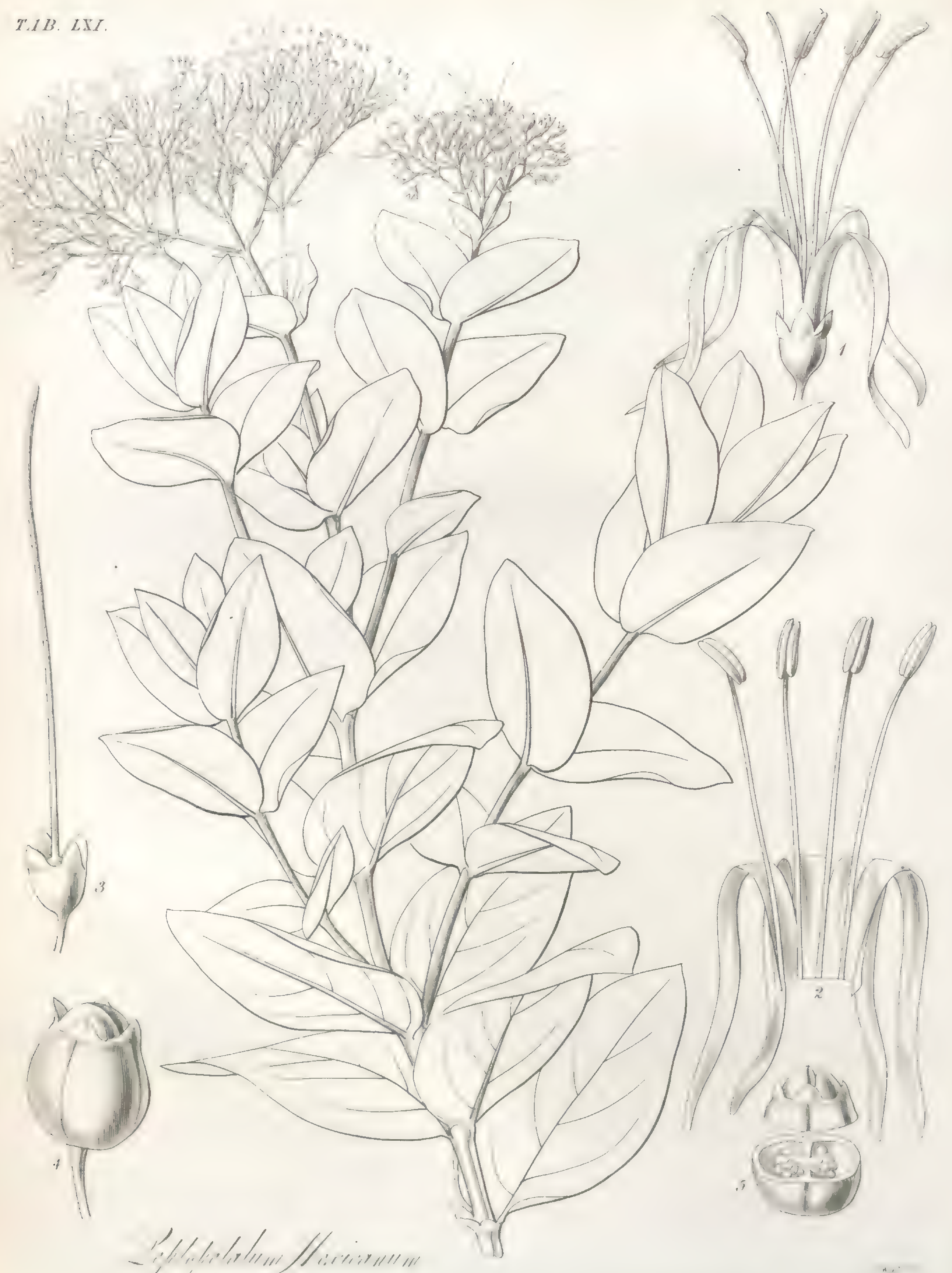
Ord. XLV. LORANTHACEÆ. *Juss.*

1. Loranthus *calyculatus. De Cand.?*

The structure of the flowers and bractea is the same with the plant of De Candolle, but the young branches are angled: we should have supposed it to be *L. Scheidianus*, Schlecht. (in Linnæa, 5. p. 172), so well does it generally agree with the description, but that has a corolla three inches long, while in ours it does not exceed half that length. The leaves are ovate-lanceolate, falcate, and acuminated.

In the collection there is another species of *Loranthus*, or perhaps of *Viscum*, with opposite, oval, acute, or obtuse leaves, and long slender branches, but there is neither flowers nor fruit.

TAB. LXI.



Leptopetalum Mexicanum

Ord. XLVI. RUBIACEÆ. *Juss.*

LEPTOPETALUM. *Nov. Gen.*

Calycis tubus quadridentatus. *Corolla* quadripartita, laciniis elongatis lineari-spathulatis angustissimis patulis utrinque glabris. *Stamina* 4; filamenta filiformia corollam æquantia: antheræ oblongæ oscillatoriæ. *Ovarium* biloculare, multiovulatum. *Stylus* filiformis, apice crassior et subemarginatus. Capsula hemisphærica, compressiuscula dentibus calycinis coronata bilocularis, vertice loculicidâ, rimâ dehiscens. *Semina* plurima in quoque loculo, (immatura) minuta angulata.—Frutex *glaber.* Rami *angulati.* Folia *opposita, sessilia, ovalia, acutiuscula, basi subcordata.* Stipulæ *late triangulares, breves acutæ, interpatiolares; Corymbi terminales, trichotomi.*

1. Leptopetalum *Mexicanum.* (Tab. LXI.)

Tab. LXI. *Fig.* 1. Flower; *fig.* 2. Corolla and stamens; *fig.* 3. Pistil; *fig.* 4. Fruit; *fig.* 5. The same cut through transversely:—*magnified.*

1. Hamelia *patens. Jacq.*

1. Chiococca *racemosa. Jacq.*

1. Farameum? (Tetramerium) ——; foliis breviter petiolatis oblongo-lanceolatis acutis stipulis caducis ramulorum latis brevibus exaristatis, cyma terminali trichotoma, bacca globosa calycis dentibus brevibus coronata.

Hab. Acapulco. Apparently near *F. jasminoides* or *sessilifolia.* Leaves two to four inches long.

1. Cephalanthus *occidentalis. Linn.*

1. Bigelovia *distans—Borreria distans. Ch. & Schl.—Spermacoce distans. H. B. K.*

2. B. ———?

Caules adscendentes pubescentes. Folia ovata acuminata basi in petiolum attenuata, utrinque pubescentia. Stipularum setæ 2-3, tubo paullo longiores. Capitulum (in frustulo unico suppetente) solitarium terminale, 3-4 lineas in diametro, foliis quatuor parvulis bracteatum. Calyx pilis albis erectis vestitus: tubus obconicus: limbi dentes 4, inæquales, corolla infundibuliformis, tubo brevi tenui.

We cannot refer this satisfactorily to any described species, although most probably it may be among those enumerated by De Candolle; it may be *Borreria Bartlingiana,* but approaches much also to *B. Wydleriana.*

1. Spermacoce *tenuior. Linn.*—Hab. Tepic and Talisco.

1. Diodia *barbigera;* prostrata glabra, foliis oblongis acutis basi in petiolum attenuatis, stipularum setis 4-5 tubum basi barbatum æquantibus, floribus aggregatis verticillatis, calycis dentibus 4 obtusis, corolla (minuta) ore albo-barbata.—Hab. Talisco.

1. Mitracarpum *Schizangium. De Cand. Prod.* 4. *p.* 572.

1. Galium *Aparine. Linn.*—G. Mexicanum. *H. B. K.*

There are three other *Rubiaceæ* in this collection, but they are already noticed among those from Loo Choo and Bonin, whence they were, in all probability, brought.

Ord. XLVII. VALERIANEÆ. *Juss.*

1. Valeriana *ceratophylla. H. B. et Kunth, Nov. Gen. Am. v.* 3. *p.* 333. *t.* 276.—Hab. Talisco.

Ord. XLVIII. COMPOSITÆ. *Juss.*

1. Stevia *glandulosa;* fruticosa tota pubescenti-glandulosa, foliis oppositis sublonge petiolatis ovatis serratis, corymbis densis polycephalis, involucro trifloro, pappo paleaceo brevi exaristato.

Hab. Talisco.—A shrubby and apparently rather tall growing plant, every where clothed with glandular viscid down. Leaves, including the petioles, near two inches long. Capitula very compact. Achenia black, linear, crowned with about 5 short paleaceous, nearly equal, jagged scales.

1. Elephantopus *Carolinianus. Willd.—De Cand. Prod.* 5. *p.* 86.

The *E. nudicaulis* of the United States is not specifically distinct from this.

1. Distrephus *spicatus. Cass.—De Cand. Prod. v.* 5. *p.* 87.—Elephantopus spicatus. *B. Juss.*

1. Lagascea *latifolia. De Cand. Prod.* 5. *p.* 92.—Nocca latifolia. *Lallav. et Lex. Nov. Veg. Descr.* 1. *p.* 31. *Sweet. Br. Fl. Gard. t.* 215.

1. Pectis *Taliscana;* caule erectiusculo glabro tetragono opposite ramoso, foliis linearibus acuminatis mucronatis grosse glandulosis versus basin utrinque 2-3-ciliatis supra pubescenti-scabridis, pedicellis bracteatis monocephalis capitulos 2-4-plo superantibus, involucri squamis 5 linearibus convolutis acutiusculis, pappo radii et disci setis 3-6 aristatis basi dilatatis paleisque paucis brevissimis.

Hab. Talisco.—A small and incomplete specimen is all that we have had the opportunity of examining, but the pappus does not correspond with that of any described species.

2. P. *diffusa;* glabra, caule ramisque diffusis, foliis linearibus submucronatis, pedicellis elongatis pauci-bracteatis, involucri squamis 5 oblongis acutiusculis, pappi paleis setiformibus scabris inæqualibus in disco 10-20, in radio paullo paucioribus, ligulis oblongo-linearibus involucrum duplo superantibus.

Hab. Talisco.—Allied to *P. elongata*, but smaller, and with a very diffuse habit.

1. Piqueria *trinervia. Cav. Ic.* 3. *p.* 19. *t.* 235. *De Cand. Prod.* 5. *p.* 104.

1. Gymnocoronis *latifolia;* foliis ovatis serratis utrinque acuminatis secus petiolum decurrentibus, involucri foliolis oblongis acutis.

Hab. Talisco.—The flowers very much resemble those of *G. attenuata*, DC. (*Alomia spilanthoides*, Don; et Hook. et Arn. Bot. of S. Am. in Comp. to Bot. Mag. v. 1. p. 238); but the capitula are much larger, the scales of the involucre broader, and the leaves are vastly longer, and two inches and more in diameter.

1. Cælestina *ageratoides. H. B. et Kunth, Nov. Gen. Am.* 4. *p.* 151. *De Cand. Prod.* 5. *p.* 108.—Ageratum cælestinum. *Bot. Mag. t.* 1730.

1. Phania? *urenifolia;* herbacea glabra, foliis alternis grosse serratis petiolatis trifidis v. pinnatim trisectis lobo terminali petiolato trifido segmentis obtusis, capitulis paucis axillaribus longe pedunculatis subcorymbosis permultifloris (fere 100), involucri squamis striatis externis paucis ovatis acutis, internis 40-50 lineari-acuminatis, corolla pappi longitudine æquali perangusta lobis brevissimis obtusis, pappo brevissime coroniformi in setas tenues rigidas 4-5 producto, styli ramis elongatis longe exsertis tenuibus.

We are extremely doubtful of this genus; but the plant has so many points in common with *Phania multicaulis*, DC., that we, for the present, refer it to the same genus, from which it differs in many of its characters. The scales of the involucre are very numerous; the achenia and corolla exceedingly slender; the setæ of the pappus slender, rigid, rough, and of a dark purple colour.

1. Bolbostylis *rigida;* fruticosa, ramis elongatis, foliis rigido-coriaceis ovatis acutis sessilibus reticulatis supra nitidis scabris subtus albo-tomentosis superioribus minoribus bracteiformibus, capitulis pedunculatis terminalibus axillaribusque subsolitariis, involucri turbinato-hemisphærici foliolis imbricatis, ext. late ovatis acutis, int. oblongis.

Leaves 1½ to 2 inches long. Flowers large. Scales of the involucre blackish at the tips. Achenium narrow, furrowed. Pappus of many slender setæ slightly thickened below the point.

2. B. *hebecarpa. De Cand. Prod.* 5. *p.* 138.

Hab. Talisco.—This seems to agree with the plant thus named, except that there are about 13 (not 10) flowers in each capitulum.

1. Eupatorium *glaberrimum. De Cand. Prod.* 5. *p.* 144.

Specimens very imperfect.

2. E. *conyzoides. Vahl, Symb.* 3. *p.* 96. *De Cand. Prod.* 5. *p.* 143.—β. *glabrius.*

3. E. *ovaliflorum;* fruticosum pubescens subvelutinum, foliis oppositis brevi-petiolatis anguste ovatis acuminatis subcoriaceis 3-5-nerviis serratis, panicula trichotome composita, involucri ovalis sub 23-flori squamis arcte imbricatis ovatis obtusis striatis nitidis.

The leaves are singularly harsh and rigid, but clothed, especially above, with a short and almost velvety down. The involucres are almost exactly oval, contracted at the apex, and embracing tightly the florets. It seems most nearly allied to *E. divergens;* Less.

4. E. *nigrescens;* fruticosum fere ubique glabrum, foliis oppositis ovato-deltoideis acuminatis serratis tenuibus siccitate nigricantibus sublonge petiolatis, petiolis gracilibus, corymbis polycephalis, involucri brevi-cylindracei squamis oblongis obtusis arcte imbricatis pubescentibus striatis sub 15-floris.

The old leaves are glabrous, as are the stems and older branches; the young leaves and pedicels and involucres are slightly downy.

5. E. *lasioneuron;* fruticosum, foliis patentibus sublonge petiolatis ovatis acuminatis submembranaceis serratis supra glabriusculis subtus ad costam præcipue lanuginosis, corymbis polycephalis, involucri patenti-campanulati foliolis glabriusculis laxis 1-2 externis

brevibus reliquis (14-15) subæqualibus lineari-lanceolatis membranaceis striatis sub 15-floris, acheniis striatis puberulis.

Hab. Talisco.—Leaves 3-4 inches long; petiole 1 inch. Capitula ¾ of an inch in diameter. Pappus white, as the corollas also appear to be.

1. Heterotheca *inuloides. Cass.—DC. Prod.* 5. *p.* 317.—Diplocoma villosa. *Sweet, Fl. Gard. t.* 246.—Doronicum Mexicanum. *Cerv. in Link et Otto, Hort. Berol. t.* 22.

The *H. leptoglossa,* DC., is probably not distinct from this.

1. Baccharis *longifolia? De Cand. Prod.* 5. *p.* 402.

In our plant, the exterior scales of the involucre are ovate, the interior oblong, slightly but distinctly ciliated, and the lower part of the branches appears woody.

2. B. *hirtella? De Cand. Prod.* 5. *p.* 418.

If this be the plant of De Candolle, the leaves are 5-6 inches long, an inch or an inch and a half broad, the capitula densely clustered, of a pale straw-colour, almost white.

1. Eclipta *erecta. L.—De Cand. Prod.* 5. *p.* 490.

2. E. *brachypoda. Mich.—De Cand. Prod.* 5. *p.* 491.

CHÆTYMENIA. *Nov. Gen.*

Capitulum multiflorum, heterogamum, fl. radii ligulatis fœmineis obovatis, disci plurimis tubulosis hermaphroditis. *Involucri* patenti-campanulati *squamæ* paucæ subbiseriales, inæquales, laxe imbricatæ, ovatæ, subacuminatæ, vix foliaceæ. *Receptaculum* nudum. *Styli* rami attenuati pilosi. *Achenia* oblonga, basi attenuata, angulata, angulis pilosis. *Pappi setæ* rigidæ, sub-20, corollæ tubulosæ longitudine, piloso-hispidæ, basi utrinque ala membranacea incisa auctæ.—Herba? *subsimplex, Mexicana, glabra.* Caulis *teres.* Folia *elongata, lineari-lanceolata, subpunctata, trinervia, opposita, basique connata.* Pedunculi *terminales axillaresque, longissimi, nudi.* Flos *majusculus* (*diametro bipollicaris*), *aureo-flavus.*

1. Chætymenia *peduncularis.* (Tab. LXII.)

Hab. Talisco.—This genus appears to belong to the Subtrib. *Tagetineæ* of the Senecionideæ (*DC.*): but the character of the genus comes near to *Burrielia* in the Helenieæ. It, however, seems quite distinct from anything hitherto published.

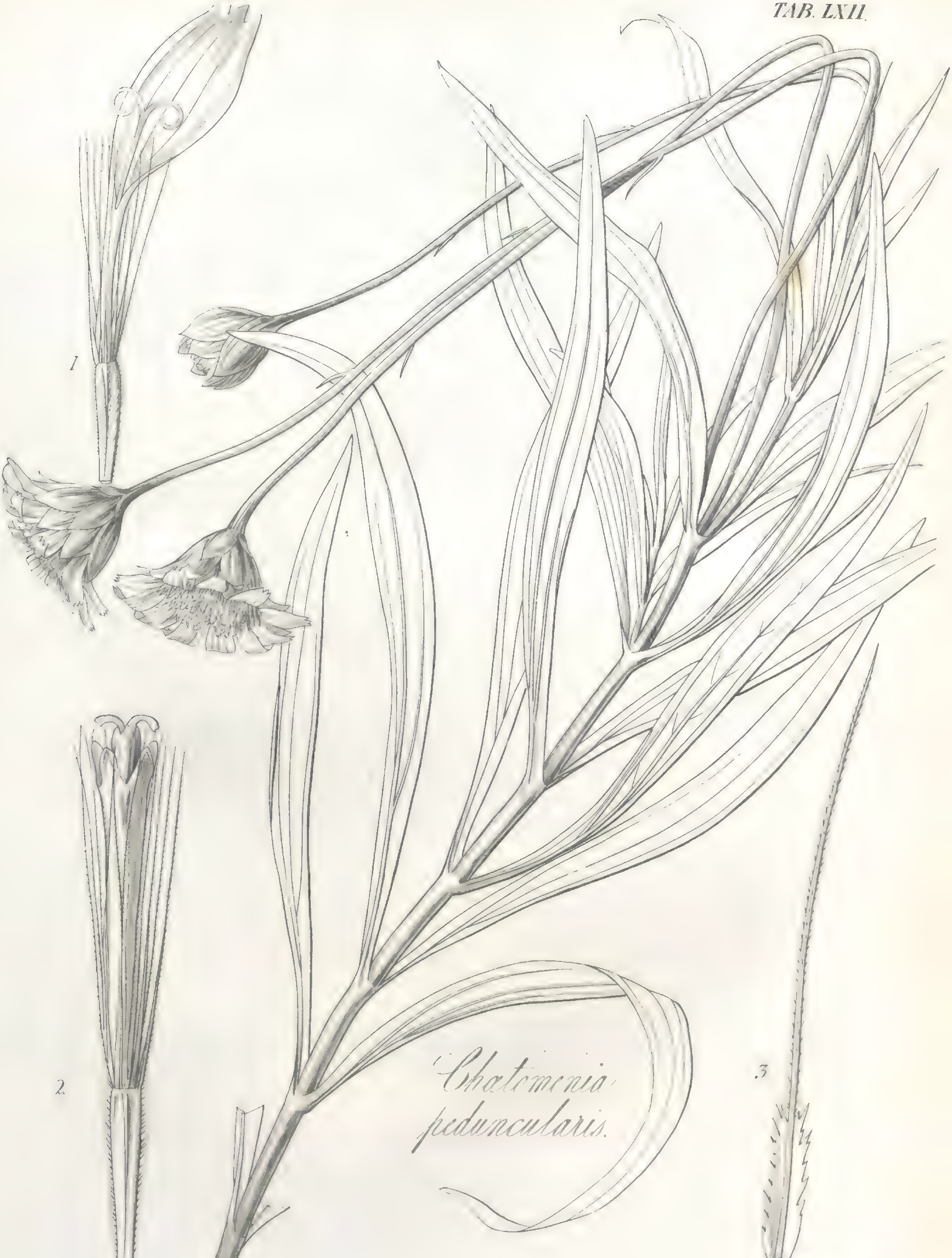
Tab. LXII. *Fig.* 1. Floret of the ray; *fig.* 2. Do. of the disk; *fig.* 3. Seta of the pappus:—*magnified.*

1. Porophyllum *Linaria? De Cand. Prod.* 5. *p.* 649.—Cacalia Linaria. *Cav. Ic.* 3. *p.* 19. *t.* 257.—Hab. Talisco.

TULOCARPUS. *Nov. Gen.*

Capitulum pauciflorum, monoicum; radii flosculo solitario fœmineo ligulato, apice tridentato, tubo gracili basi dilatato; *disci* flosculis 3-4, tubulosis masculinis, tubo longo gracili, limbo campanulato, alte 5-fido. *Involucrum* cylindraceum, 6-phyllum, biseriale, foliolis 3 ext. majoribus æqualibus striatis acutis, 3 int. scariosis, unico florifero. *Receptaculum* paleaceum, paleis involucri seriei int. similibus. *Antheræ* exsertæ (viridescentes); filamentis dense barbatis. *Stylus* (fl. masc.) paululum exsertus, indivisus, puberulus. *Achenium* solitarium in singulo capitulo, magnum, obovato-oblongum, compressum, basi dorso callo magno rugoso tetragono.—Herba? *Mexicana, glabra.* Caulis *teres.* Folia *opposita, petiolata, ovato-lanceolata, serrata.* Corymbi *laterales terminalesque compositi.* Flores *flavi.*

TAB. LXII.



Chætomenia peduncularis.

Swan Sc.

Tulocarpus Mexicanus

1. T. *Mexicanus.* (Tab. LXIII.)

This genus, we believe, will be found to be quite distinct from any yet described. We have derived the generic name from the large wart or fleshy excrescence at the base of the outside of the achenium.

Tab. LXIII. *Fig.* 1. Capitulum; *fig.* 2. Floret from the disk; *fig.* 3. Floret of the ray, with the accompanying leaflet of the involucre, showing a front view; the fruit nearly ripe; *fig.* 4. Back view of the fruit, with its curious caruncle at the base.

1. Melampodium *sericeum? Lagasca.—De Cand. Prod.* 5. *p.* 518.

2. M. (Zarabellia, *DC.*) *tenellum;* caule herbaceo erecto trichotomo piloso, foliis oblongo- v. lineari-lanceolatis hinc inde parcedentatis utrinque attenuatis supra strigillosis, pedicellis folio longioribus, involucri squamis 4-5 rotundatis obovatis, achæniis curvato-obpyramidalibus apice truncatis lineis longitudinalibus transversalibusque rugosis reticulatim notatis, lateribus dorsoque compressis.—M. *oblongifolio* proximum.

3. M. *perfoliatum. H. B. et Kunth.—De Cand. Prod.* 5. *p.* 21.—Alcina perfoliata. *Cav. Ic.* 1. *p.* 10. *t.* 15.—Wedelia. *Willd.*—Polymnia. *Poir.*

1. Parthenium *Hysterophorus. L.—De Cand. Prod.* 5. *p.* 532.

1. Zinnia *maritima? H. B. et Kunth, Nov. Gen. Am.* 4. *p.* 251. *De Cand. Prod.* 5. *p.* 536.—Hab. Talisco.

1. Jaegeria *pedunculata;* hirsuto-hispida, caule subsimplici, foliis lanceolatis inciso-dentatis apice dentibusque callosis, pedunculo elongato gracili monocephalo.

Hab. Talisco.—Habit of *J. mnioides;* but a span long, hairy, almost hispid, with lanceolate leaves, and a very elongated and slender flower-stalk.

2. J. *hirta? Less.—De Cand. Prod.* 5. *p.* 442.—Hab. Talisco.

1. Tithonia *pachycephala. De Cand. Prod.* 5. *p.* 585.

1. Bidens *leucantha. Willd.—De Cand. Prod.* 5. *p.* 598.

1. Coreopsis *bipinnatus. Cav. Ic.* 1. *p.* 9. *t.* 14. *De Cand. Prod.* 5. *p.* 604.

1. Verbesina *pinnatifida. Cav. Ic.* 1. *p.* 67. *t.* 100. *De Cand. Prod.* 5. *p.* 615.

2. V. *ceanothifolia? Willd.—De Cand. Prod.* 5. *p.* 613.

1. Spilanthes *alba. Willd.—L'Hérit. Stirp. p.* 7. *t.* 4. *De Cand. Prod.* 5. *p.* 625.

1. Clomenocoma *aurantia. Cass.—De Cand. Prod.* 5. *p.* 641.

A single capitulum alone, without foliage, is in the collection, from Acapulco.

1. Schkuhria *virgata. De Cand. Prod.* 5. *p.* 654.

1. Tagetes (§ Leptocephalæ) *congesta;* caule erecto pusillo ramosissimo, ramis perbrevibus, foliis confertis oppositis pinnatisectis, segmentis linearibus mucronatis, capitulis corymboso-fasciculatis breviter pedicellatis cylindraceo-oblongis, flosculis 10-12, ligulis solitariis involucro longioribus, pappo aristis 2-4, paleis 2-3 truncatis v. obtusis.

1. Allocarpus *scabrifolius;* ramis pubescentibus, foliis oblongo-lanceolatis acuminatis calloso-dentatis 5-nerviis supra scabris subtus ad nervos hirsuto-pubescentibus, capitulis corymbosis multifloris, ligulis 15-20, involucri squamis 15-20 3-4-serialibus striatis, acheniis radii glabris triquetris calvis, disci obovato-cylindraceis superne pubescentibus, paleis plurimis lineari-subulatis uniserialibus.—Hab. Talisco.

1. Chlamysperma *arenarioides;* humilis pubescenti-glandulosa, foliis ovatis integerrimis. (Tab. LXIV.)

There can, we think, be no doubt of the propriety of referring this to the same genus with *C. pratense*, Less. and DC., so well figured by Humboldt and Kunth under the name of *Unxia pratensis* (Nov. Gen. Am. t. 401). In our plant, however, the central florets have the limb quadrifid, and they are abortive. The curious broad incurved wing of the marginal achenia is quite smooth, not tuberculated.

Tab. LXIV. *Fig.* 1. Plant:—*nat. size;—fig.* 2. Capitulum; *fig.* 3. Floret from the disk; *fig.* 4. Floret from the ray, with the accompanying leaflet of the involucre; front view; the fruit nearly ripe; *fig.* 5. Back view of the fruit; *fig.* 6. Transverse section of the same:—*magnified.*

1. Gnaphalium *purpureum. L.—De Cand. Prod.* 6. *p.* 232.

2. G. *luteo-album. L.—Sm. E. Bot. t.* 1002. *De Cand. Prod.* 6. *p.* 230.

1. Trixis (§ Macrochlænæ) *obvallata;* fruticosa, foliis sessilibus oblongo-lanceolatis acutissimis sparse denticulatis glabris subtus junioribus ramulisque subsericeis, capitulis (magnis) corymbosis breviter pedicellatis, involucro 8-phyllo basi bracteis 4-5 amplis foliaceis ovato-lanceolatis obvallato, receptaculo piloso-fimbrillifero. (Tab. LXV.)

Near *T. longifolia,* Don; but the leaves are quite sessile. Corollas bright yellow; pappus tawny.

Tab. LXV. *Fig.* 1. Capitulum, with its double involucre; *fig.* 2. Young floret; *fig.* 3. Old do.:—*magnified.*

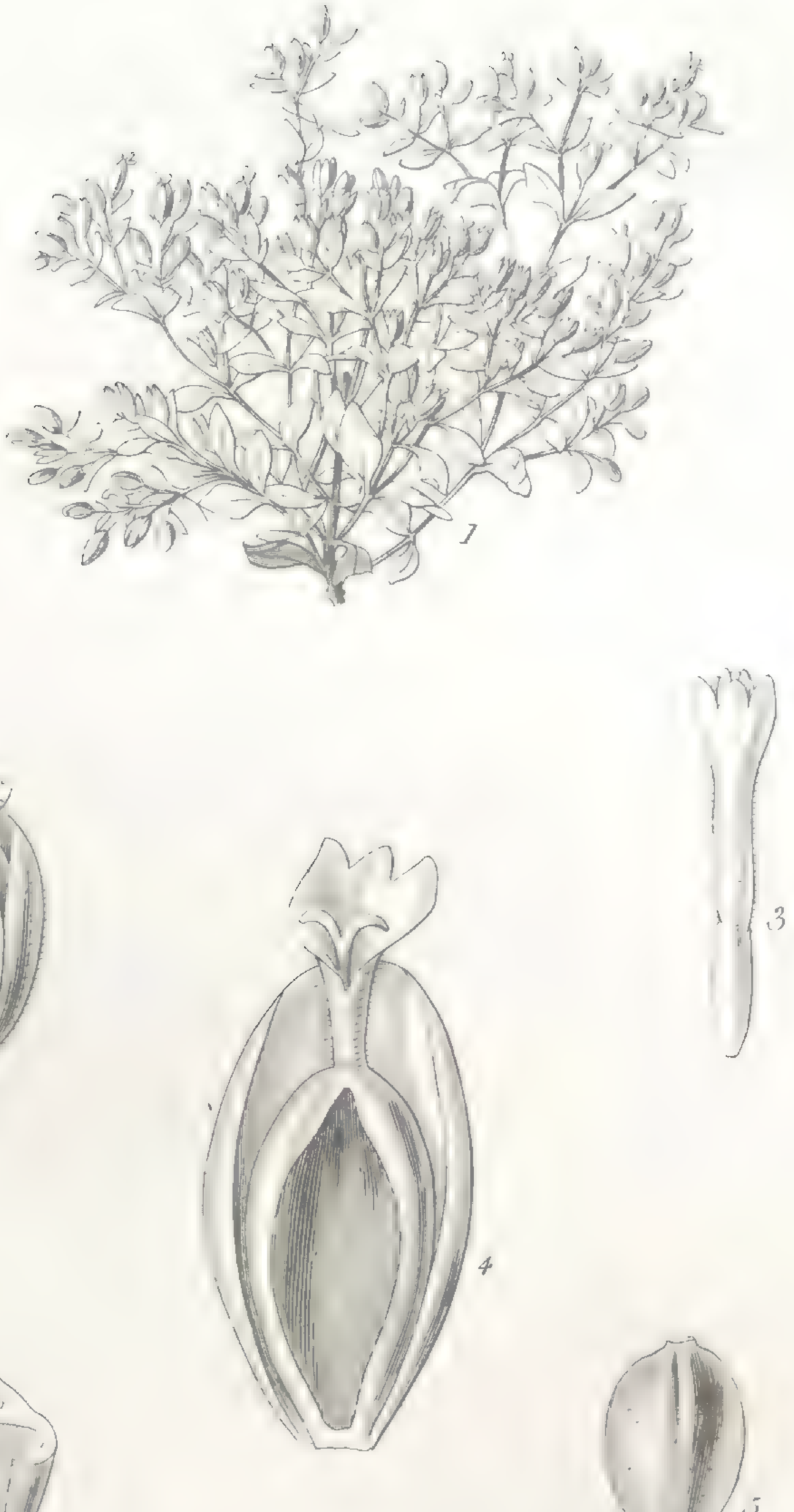
2. T. (§ Prionantheæ) *latifolia;* fruticosa glabra, foliis sessilibus obovatis spinuloso-dentatis rigidis basi cordatis, ramis floriferis elongatis bracteatis apice laxe corymbosis, involucri foliolis omnibus imbricatis lanceolatis spinoso-acuminatis pubescentibus, capitulis 10-12-floris.

Leaves in the lower part of the plant 4-5 inches long, 3 broad. Lower bracteas leaf-like, small; upper ones acuminate subspinulose, and gradually passing into the spinescent scales of the involucre. Receptacle naked. Achenium erostrate. Pappus nearly white. Corollas apparently yellow.

Ord. XLIX. LOBELIACEÆ. *Juss.*

1. Lobelia *ovalifolia;* herbacea ubique pubescens, caule erecto stricto, foliis sparsis ovalibus sessilibus subcoriaceis duplicato-glanduloso-serratis acutissimis, pedicellis elongatis solitariis axillaribus unifloris, corolla pubescente (rubra) superne usque ad basin fissa, limbo 5-fido, laciniis lineari-acuminatis, filamentis hirsutis.

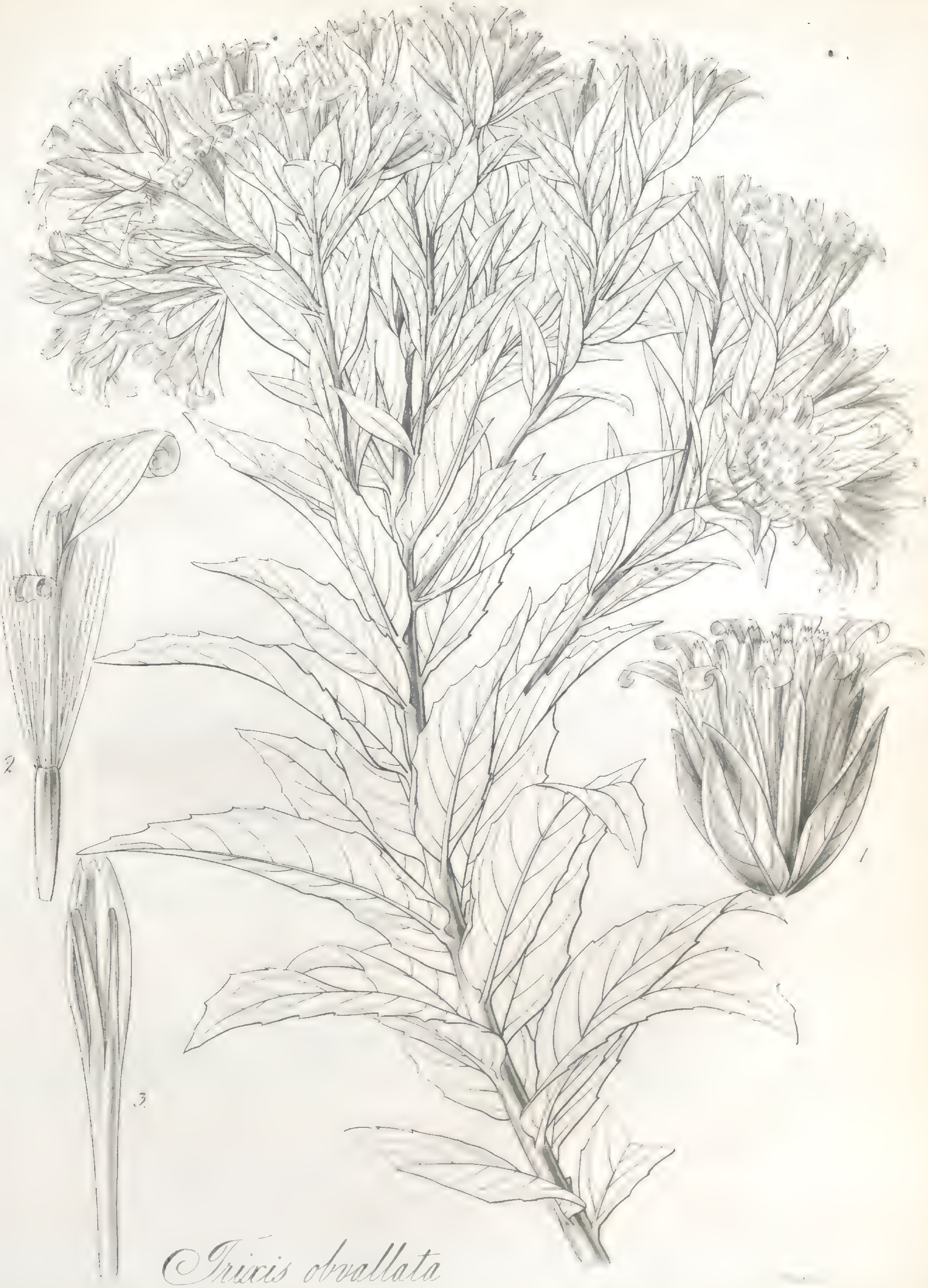
Nearly allied to *L. mucronata*, Cav. (and Hook. Bot. Mag. t. 3207); but the leaves are much smaller, of a different form, coming suddenly to a very sharp point, and the serratures are considerably larger and more



Chlamysperma arenarioides.

Swan Sc.

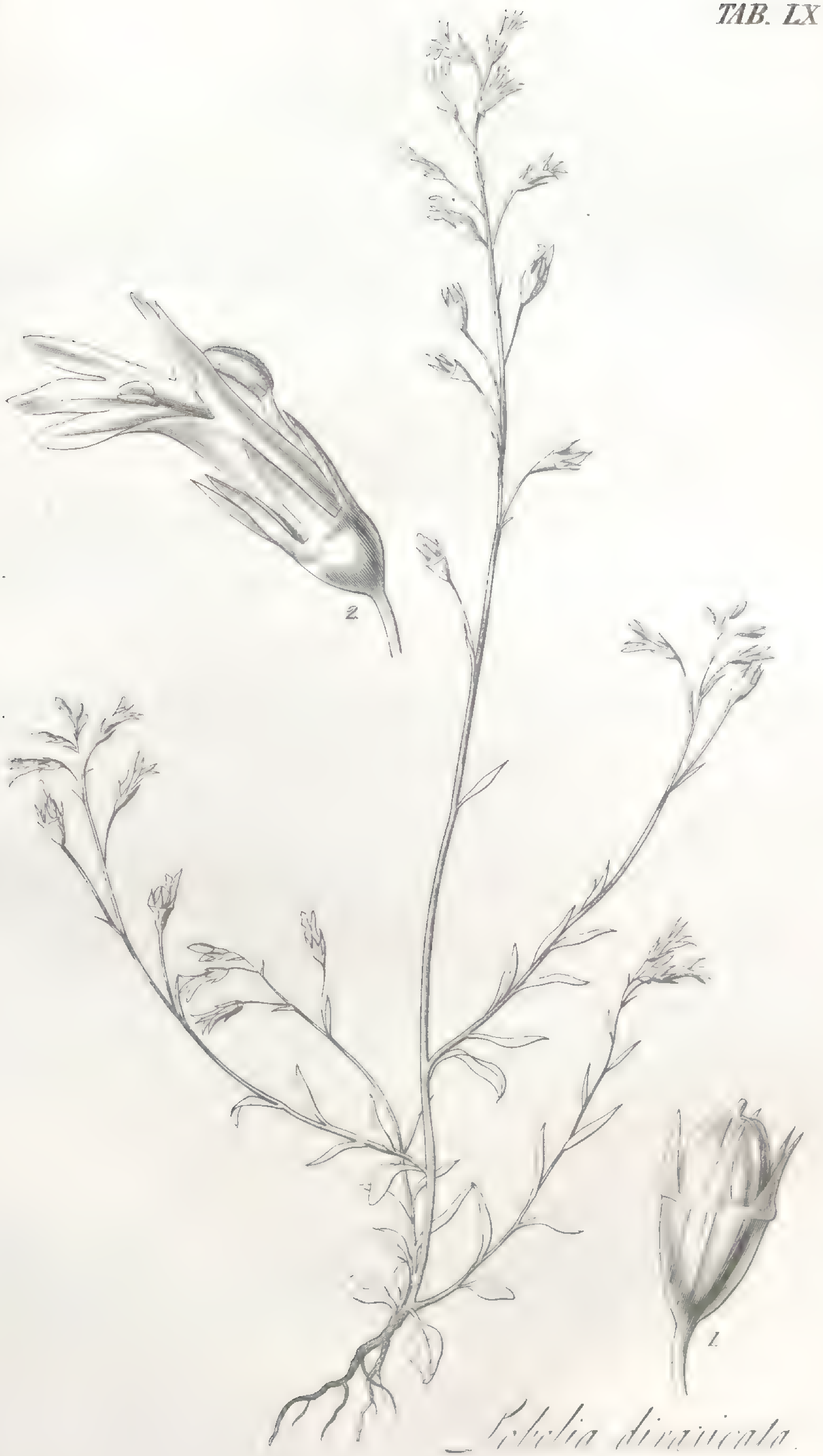
TAB. LXV.



Trixis obvallata

Lobelia arabidoides.

TAB. LXVII.



Lobelia divaricata.

Swan Sc

unequal. The stems are leafy to the top, and hence the flowers are axillary. In *L. mucronata,* the leaves suddenly become bracteas among the flowers, and then the flowers are said to be racemose; but this we consider no permanent character, as is clearly shown in the following species.

2. L. *lanceolata;* herbacea pubescens, caule erecto stricto, foliis sparsis lanceolatis subsessilibus subcoriaceis duplicato-glanduloso-serratis anguste acuminatis, pedicellis elongatis solitariis unifloris axillaribus vel racemosis et foliaceo-bracteatis, corolla glabriuscula (rubro-flava?) superne usque ad basin fissa, limbo 5-fido, laciniis lineari-acuminatis, filamentis glabris.—An L. rigidula, *H. B. K. Nov. Gen. Am.* 3. *p.* 311?

This belongs to the same group with the preceding, as does the following, and it is possible that the three may be varieties of one and the same species. The present is distinguished from *L. ovalifolia* by the shape of the leaves and nearly glabrous corolla, and quite glabrous filaments: from *L. angulato-dentata,* by its downy stem and leaves, which latter are sessile, more rigid, and by the nature of the serratures.

3. L. *angulato-dentata;* herbacea? glabra, foliis sparsis tenui-membranaceis lato-lanceolatis angulato-dentatis basi in petiolum brevem attenuatis apice tenui-acuminatis, pedicellis elongatis solitariis axillaribus unifloris, coròlla glabra (rubro-flava?) superne usque ad basin fissa, limbo 5-fido, laciniis lineari-acuminatis, filamentis glaberrimis.

4. L. *arabidoides;* annua subcæspitosa glabra, caule gracili paniculato, foliis inferioribus lanceolatis grosse inciso-serratis in petiolum attenuatis reliquis linearibus subintegerrimis, floribus racemosis, calycis tubo brevissimo ore valde obliquo inferne calcarato, limbi laciniis lineari-lanceolatis inæqualibus, corolla (cærulea) superne usque ad basin fissa 5-fida bilabiata, labio inferiore bituberculato, fructu semisupero. (Tab. LXVI.)

The curious spur-like process at the lower margin of the calyx, in the sinus of the two shorter laciniæ, both of this and the following species, varies in length, and the base of the corolla is prolonged into it.

Tab. LXVI. *Fig.* 1. Flower; *fig.* 2. Fruit:—*magnified.*

5. L. *cordifolia;* annua subcæspitosa glabra, caule gracili paniculato, foliis inferioribus longe petiolatis cordato-rotundatis reliquis lanceolatis omnibus grosse inciso-serratis, floribus racemosis, calycis tubo brevissimo, ore valde obliquo inferne brevi-calcarato, limbi laciniis lineari-lanceolatis inæqualibus, corolla (cærulea) superne usque ad basin fissa 5-fida bilabiata, labio inferiore bituberculato, fructu semisupero.

Nearly allied to the preceding, but very different in the foliage, and the spur of the calyx is much shorter.

6. L. *divaricata;* parva annua ramosa glabra, ramis divaricatis tetragonis, foliis subdentatis inferioribus ovalibus petiolatis reliquis anguste lanceolatis, floribus racemosis, calycis æqualis tubo turbinato, laciniis lineari-lanceolatis uniformibus, corolla (cærulea) superne usque ad basin fissa quinquefida bilabiata, labio inferiore grosse bituberculato, fructu semisupero. (Tab. LXVII.)

Hab. Talisco.—A small, often straggling species, apparently very distinct from any hitherto described.

Tab. LXVII. *Fig.* 1. Flower; *fig.* 2. Fruit:—*magnified.*

ORD. L. GESNERIACEÆ. *Rich.*

1. Gesneria *Deppeana. Schlecht. in Linnæa*, 5. *p.* 110.

Allied to *G. elongata*, H. B. K., but far less hairy, with shorter leaves, smaller flowers, and a longer upper lip.

1. Trevirania *parviflora ;* foliis ovatis uniformibus grosse inæqualiter serratis, pedunculis aggregatis gracillimis, corollæ limbo parvo erecto-patente.

The flowers are very much smaller than in the well-known *T. coccinea* (*Cyrilla pulchella*, Bot. Mag. t. 374), and the limb is extremely short, and scarcely spreading. It is still more different from *T. grandiflora*, Schlecht. in Linnæa, 8. p. 247 ; and equally so from *T. heterophylla*, Mart. : both of them likewise Mexican species.

ORD. LI. ERICEÆ. *Juss.*

1. Clethra *obovata. Ruiz et Pav. Fl. Per. t.* 381.—C. tinifolia. *Schlecht. in Linnæa*, 5. *p.* 127. (*non Sw.*).

ORD. LII. SAPOTEÆ. *Juss.*

1. Lucuma? *ferruginea ;* foliis obovatis obtusis in petiolum attenuatis subtus (junioribus sericeo-) ferrugineis, floribus aggregatis.

ORD. LIII. ASCLEPIADEÆ. *Br.*

1. Sarcostemma *Cumanense? H. B. K. Nov. Gen. Am.* 3. *p.* 195.

HAB. Acapulco.—The leaves are glabrous ; in other respects it seems to agree with Humboldt's Cumana plant.

1. Asclepias *glaucescens. H. B. K. Nov. Gen. Am.* 3. *p.* 190. *t.* 227.—HAB. Talisco.

ORD. LIV. APOCINEÆ. *Br.*

1. Tabernæmontana *littoralis. H. B. K. Nov. Gen. Am.* 3. *p.* 228.—HAB. Acapulco.

1. Nerium *odorum. L.*—flore pleno.—Acapulco : *cultiv.*

ORD. LV. GENTIANEÆ. *Juss.*

1. Erythræa *Mexicana? Griseb. ined.*

With our imperfect specimens, we dare not venture upon offering a character of this plant, of which there are two varieties, if not two distinct though closely allied species : both having the habit and paniculated stem with divaricated branches of *E. Mexicana,* Griseb. in Herb. nostr. ; but the calyx is more deeply cleft. In the one from Tepic, the flowers are twice the size of the other kind (from Talisco), but we do not find any structural difference.

2. E. *Chilensis. Pers.*—Chironia Chilensis. *Willd.*

1. Schultesia *stenophylla. Mart. Brasil. t.* 182.

ORD. LVI. BIGNONIACEÆ. *Juss.*

1. Tecoma *stans. Juss.*—HAB. Acapulco.

ORD. LVII. POLEMONIACEÆ. *Juss.*

1. Hoitzia *coccinea. Cav.*

2. H. *glandulosa. Cav. Ic.* 4. *p.* 44. *t.* 367.—An etiam H. Cervantesii. *H. B. K. Nov. Gen. Am.* 3. *p.* 164.—HAB. Talisco.

1. Bonplandia *geminiflora. Cav. Ic.* 6. *p.* 21. *t.* 532.—Caldasia heterophylla. *Willd. Hort. Berol.* 1. *p.* 71. *t.* 71. *H. B. K. Nov. Gen. Am.* 3. *p.* 166.—HAB. Talisco.

ORD. LVIII. HYDROLEACEÆ. *Br.*

1. Hydrolea *spinosa. L.*—*H. B. K. Nov. Gen. Am.* 3. *p.* 125.—HAB. Acapulco.

1. Wigandia *urens. H. B. K. Nov. Gen. Am.* 3. *p.* 127. *Lindl. Bot. Reg. t.* 1966.—Hydrolea urens. *R. et P. Fl. Peruv.* 3. *p.* 21. *t.* 243.

ORD. LIX. CONVOLVULACEÆ. *Juss.*

1. Convolvulus (Ipomæa, *Chois.*) *densiflorus;* volubilis, ramis teretibus junioribus pubescentibus, foliis longe petiolatis cordatis (sinu lato profundo) brevi-acuminatis integerrimis supra pubescentibus subtus (junioribus præcipue) pannosis, pedunculis umbellatis, umbellis compositis multifloris, calycis laciniis lato-ovatis obtusis convolutis, corolla subinfundibuliformi, limbo patente.

Leaves extremely and densely downy on the underside. Flowers numerous, 20 or more, in a compound umbel.

1. Quamoclit *vitifolia.*—Calboa vitifolia. *Cav. Ic.* 5. *p.* 51. *t.* 476.—Macrostema vitifolia. *Pers. Syn. Pl.* 1. *p.* 185.—Ipomæa funis? *Schlecht. in Linnæa,* 5. *p.* 119. *et* 6. *p.* 381.—Fructus quadrilocularis.

1. Exogonium *spicatum. Chois. Conv. Diss. Sec. p.* 128.—Ipomæa bracteata. *Cav. Ic.* 5. *p.* 51. *t.* 477. (*non Vahl*).—Ipomæa cincta. *Roem. et Sch.* 4. *p.* 254.—Ipomæa spicata? *H. B. K. Nov. Gen. Am.* 3. *p.* 112.—Convolvulus obvallatus. *Spr.*

1. Evolvulus *argyreus. Chois. Conv. Diss. Sec. p.* 153.—E. incanus. *H. B. K. Nov. Gen. Am.* 3. *p.* 116. (*non Pers.*).—Cressa sericea. *Willd. in Roem. et Sch.*—In nostr. exempl. folia pleraque fere obovata sunt acutissima.

2. E. *alsinoides. L.*—*Chois. l. c. p.* 154.—*Burm. Zeyl.* 9. *t.* 6.—E. hirsutus? *H. B. K. Nov. Gen. Am.* 5. *p.* 117.—HAB. Talisco.

3. E. *linifolius. L.*—*Lam. Ill.* 3. *t.* 216. *f.* 1.—E. debilis. *H. B. K. Nov. Gen. Am.* 3. *p.* 115.—E. decumbens. *Br. Prodr. p.* 489.

1. Cressa *Truxillensis. H. B. K. Nov. Gen. Am.* 3. *p.* 119.—C. arenaria. *Willd. in Roem. et Sch.* 6. *p.* 207.

Too near *C. indica*; and that again Choisy is disposed to consider as a mere variety of *C. Cretica.*

1. Cuscuta *fœtida. H. B. K. Nov. Gen. Am.* 3. *p.* 122.

gracillima Engl.

Ord. LX. BORAGINEÆ. *Juss.*

1. Cordia *Gerascanthus. Jacq. Am. p.* 43. *t.* 173. *f.* 16. *H. B. K. Nov. Gen. Am.* 3. *p.* 69.

1. Tournefortia *hirsutissima. Sw.—H. B. K. Nov. Gen. Am.* 3. *p.* 80. *Schlecht. in Linnæa,* 6. *p.* 379.

2. T. *synsystachia. Roem. et Sch.* 4. *p.* 539.—Heliotropium, *Ruiz et Pav. Fl. Peruv.* 2. *p.* 3. *t.* 109.

3. T. *Caraccasana? H. B. K. Nov. Gen. Am.* 3. *p.* 80.

1. Tiaridium *Indicum. Lehm.*—Heliotropium Indicum. *L.*

1. Heliotropium *Patabilcense? H. B. K. Nov. Gen. Am.* 3. *p.* 87.

Ord. LXI. SOLANEÆ. *Juss.*

1. Nicotiana *plumbaginifolia. Viv. in Roem. et Sch.* 4. *p.* 321. *Schlecht. in Linnæa,* 5. *p.* 111.—N. crispa. *Desf.—Jacq. Fragm. n.* 187. *t.* 84.

1. Physalis *pubescens. L.—Nees ab Esenb. in Linnæa,* 6. *p.* 467, *cum synon.*

1. Brugmansia *candida. Pers.*—Datura arborea. *Willd.*

1. Solanum *rubrum. Mill.—Dun. Sol. p.* 155.—S. nigrum. *η.* rubrum. *Willd.*

2. S. *refractum*; fruticosum, ramis pubescenti-ferrugineis scabris aculeatis, foliis glabriusculis profunde pinnatifidis costa subtus aculeatis, laciniis remotis patentibus lato-lanceolatis integerrimis terminali longiore, racemis folio longioribus lateralibus compositis, ramis elongatis refractis apice præcipue floriferis, floribus secundis, pedicellis florem æquantibus, calyce hemisphærico-campanulato 5-dentato glabro, corolla profunde quinquefida.

Leaves a span long, tapering gradually into a short footstalk; the midrib beneath, and the branches, clothed with numerous short recurved prickles. Flowers apparently white, and about the size of those of *S. Dulcamara.*

3. S. *torvum. Sw.*

4. S. *verbascifolium. Linn.—Jacq. Hort. Vind.* 1. *p.* 13.

5. S. *Carolinense. Linn.—Jacq. Ic. Rar.* 2. *t.* 331.

Ord. LXII. ACANTHACEÆ. *Juss.*

1. Justicia (Leptostachya. *N. ab E.*) *pectoralis. Linn.*

1. Elytraria *ramosa. H. B. K. Nov. Gen. Am.* 2. *p.* 235.

There are seven other species of *Acanthaceæ*, but in too imperfect a state to allow us to determine one of them.

Ord. LXIII. VERBENACEÆ. *Juss.*

1. Callicarpa *Americana. Willd.—Lam. Ill. t.* 69. *f.* 1.

2. C. *subpubescens;* foliis oblongo-lanceolatis utrinque attenuatis petiolatis serratis glabris adultis subtus sparse stellato-pubescentibus, pedunculis axillaribus petiolum æquantibus, floribus copiosis cymosis.

Leaves, including the petiole, nearly a span long, two inches broad in the widest part, closely serrated.

3. C. *parvifolia;* foliis coriaceis obovatis obtusissimis breve petiolatis læviter crenatis supra adultis glabris subtus dense cano-tomentosis reticulatim venosis, pedunculis petiolum æquantibus, floribus capitato-cymosis.

Leaves an inch and a half long; the younger ones inclining to rust-colour beneath. The peduncles and petioles are densely stellato-tomentose, like the under side of the foliage.

1. Vitex *mollis. H. B. K. Nov. Gen. Am.* 2. *p.* 245.

Hab. Acapulco.—Corolla short, tubular, 5-lobed; four lobes uniform, the fifth dilated, flabelliform, and cucullate. Ovary 4-lobed.

2. V. *flavens? H. B. K. Nov. Gen. Am.* 2. *p.* 246.

Our specimens have no flowers; but the foliage seems to agree with that of *V. flavens.*

1. Lippia *callicarpæfolia. H. B. K. Nov. Gen. Am.* 2. *p.* 268.—Hab. Talisco.

2. L. *myriocephala. Schlecht. in Linnæa,* 5. *p.* 98. *and* 6. *p.* 372.

The foliage and the stems of this are extremely scabrous.

1. Verbena *veronicæfolia. H. B. K. Nov. Gen.* 2. *p.* 275.

Very near some of the varieties of *V. officinalis.*

2. V. *Aubletia. Jacq.*—V. elegans? *H. B. K. Nov. Gen. Am.* 2. *p.* 273.

1. Stachytarpheta *dichotoma. Vahl.—H. B. K. Nov. Gen. Am.* 2. *p.* 279.—Verbena dichotoma. *Ruiz et Pav.* 1. *t.* 34.

1. Lantana *lippioides;* fruticosa, ramis angulatis scabris, foliis breve petiolatis ellipticis rigidis serratis strigoso-scabris reticulatim venosis rugosis, pedunculis axillaribus solitariis petiolum æquantibus, capitulo subgloboso pedunculi longitudine, bracteis cordatis acutissimis appressis pilosis.

Hab. Talisco and Acapulco.—Whole plant hoary with short, rigid, whitish hairs. Leaves an inch long. The veins much sunk on the upper surface, prominent beneath.

Fragments of two other *Lantanæ* are in the collection.

1. Citharexylon *reticulatum. H. B. K. Nov. Gen. Am.* 2. *p.* 257. *Schlecht. in Linnæa,* 5. *p.* 97.—Ehretia articulata. *Willd. in Roem. et Sch.* 4. *p.* 805.

1. Avicennia *tomentosa. L.*

Ord. LXIV. LABIATÆ. *Juss.*

1. Salvia (§ Membranaceæ, *Benth.*) *lasiocephala;* herbacea pubescenti-hirta, foliis petiolatis ovato-cordatis acutis grosse serratis basi obtusis, pedunculis longissimis filiformibus, verticillastris globoso-glomeratis remotissimis paucis, bracteis cordatis acutis membranaceis reticulatis verticillastro subbrevioribus, calycibus dense albo-tomentosis.

The white, woolly, globose, remote verticillastra upon the long slender peduncles, readily distinguish this species.

2. S. *elongata. H. B. K. Nov. Gen. Am.* 2. *p.* 287. *t.* 139.—var. foliis supra pilosis.

3. S. *n. sp.?* near *S. Keerlii,* Benth. Lab. p. 263, and *S. Scorodonia,* Poir., but probably different from both; the inflorescence is much paniculated.

4. S. *Scorodonia? Poir.—Benth. Lab. p.* 264.

5. S. *occidentalis. Sw.*—S. procumbens. *Ruiz et Pav. Fl. Peruv.* 1. *t.* 39. *f. a.*

Hab. Talisco.—The specimens very imperfect.

1. Stachys *coccinea. Jacq. Hort. Schoenb.* 3. *t.* 284. *Bot. Mag. t.* 666.

2. S. *agraria. Schiede et Deppe in Linnæa,* 5. *p.* 100. *Benth. Lab. p.* 550.—Hab. Talisco.

1. Perilomia *scutellarioides. H. B. K. Nov. Gen. Am.* 2. *p.* 327. *t.* 157. *Benth. Lab. p.* 445.

1. Hyptis *albida. H. B. K. Nov. Gen. Am.* 2. *p.* 319. *Benth. Lab. p.* 128.

2. H. *spicata. Poit. Ann. Mus.* 7. *p.* 474. *t.* 28. *f.* 2.

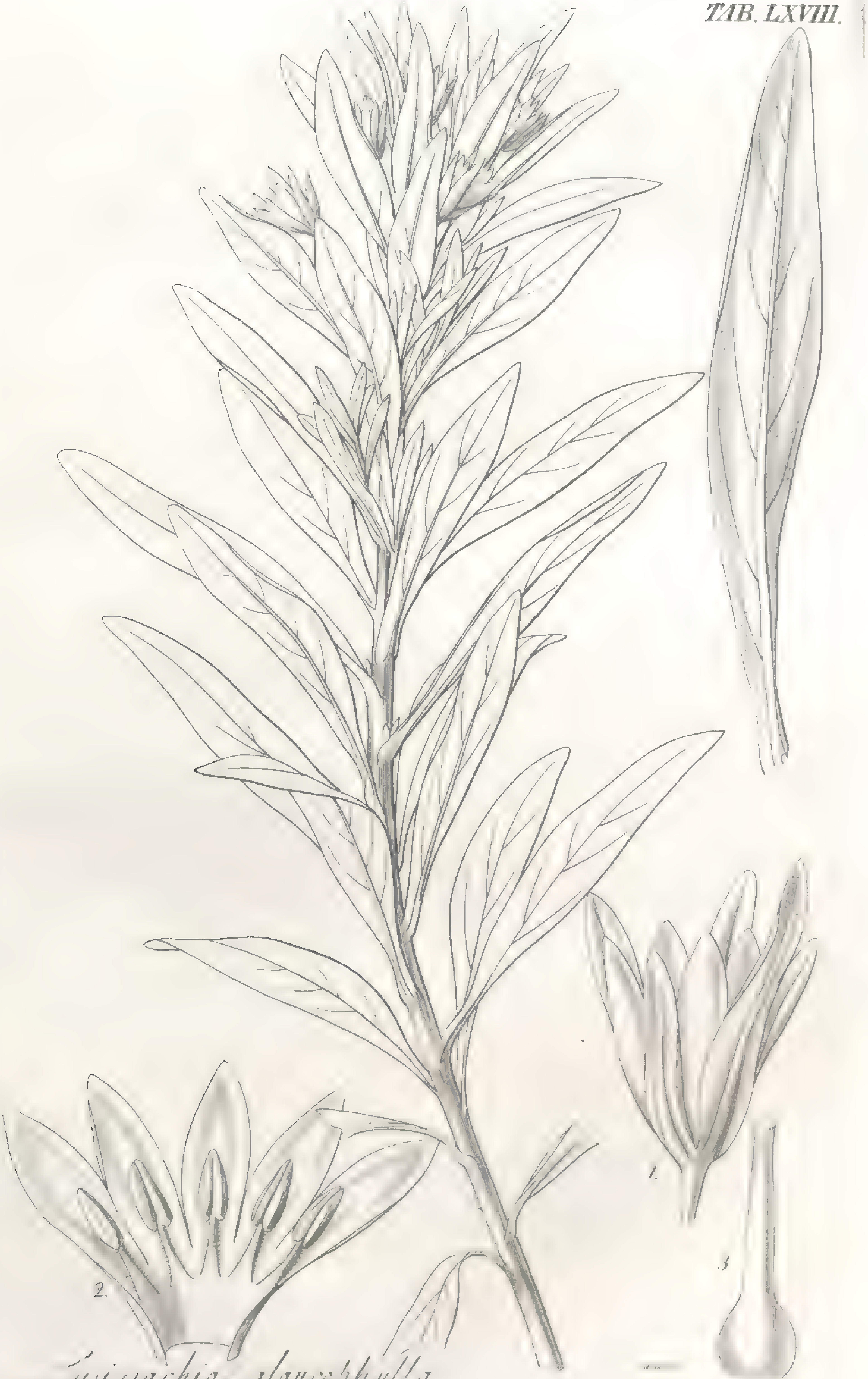
3. H. *polystachya? H. B. K. Nov. Gen. Am.* 2. *p.* 321. *Benth. Lab. p.* 119.

4. H. *stellulata. Benth. Lab. p.* 129.—Hab. Talisco.

5. H. *n. sp.,* in some respects corresponding with Mr Bentham's 3d Sect. *Apodotes;* but we dare not venture to characterize it.

Ord. LXV. PRIMULACEÆ. *Juss.*

1. Lysimachia *glaucophylla;* fruticosa glabra, caule terete subangulato, foliis lanceolatis sparsis obtusis punctatis inferne attenuatis sessilibus, subtus glaucis, pedunculis



Lysimachia glaucophylla.

axillaribus solitariis unifloris folio brevioribus, calyce 4-partito laciniis lanceolatis inæqualibus foliaceis costatis corollam 5-partitam rotatam superantibus, filamentis glandulosis, stylo incrassato. (Tab. LXVIII.)

A fruticose plant, with leaves a good deal resembling those of *L. Ephemerum*, but with a totally different inflorescence.

Tab. LXVIII. Lysimachia glaucophylla. *Fig.* 1. Flower; *fig.* 2. Corolla laid open; *fig.* 3. Pistil:—*magnified*.

Ord. LXVI. SCROPHULARINEÆ. *Juss.*

1. Buddlea *decurrens. Schlecht. in Linnæa*, 5. *p.* 105.—An B. acuminata? *H. B. K.*

1. Stemodia *parviflora. Ait.—Schlecht. in Linn.* 6. *p.* 376.

1. Mimulus *glabratus. H. B. K. Nov. Gen.* 2. *p.* 297. *Schlecht. in Linn.* 5. *p.* 107.—Hab. Talisco.

1. Scoparia *annua. Schlecht. in Linnæa*, 6. *p.* 375.

2. S. *dulcis. Linn.*

1. Capraria *hirsuta. H. B. K. Nov. Gen. Am.* 2. *p.* 355.—β. minus villosa.

2. C. *saxifragæfolia. Schlecht. in Linnæa*, 5. *p.* 105.

1. Herpestes *chamædryoides. H. B. K. Nov. Gen. Am.* 2. *p.* 296. *Schlecht. in Linnæa*, 5. *p.* 107.

2. H. *Monnieria. H. B. K. Nov. Gen. Am.* 2. *p.* 366.—Gratiola. *L.*

1. Buchnera *elongata? Sw.—Schlecht. in Linnæa*, 8. *p.* 245.—Hab. Talisco.

1. Castilleja *integrifolia. L.—Smith Ic. Pl. p.* 39. *t.* 39. *H. B. K. Nov. Gen. Am.* 2. *p.* 330.

1. Lamourouxia *multifida? H. B. K. Nov. Gen. Am.* 2. *p.* 339.

2. L. *cordata. Schlecht. in Linnæa*, 5. *p.* 103.

Hab. Talisco.—This must be, in a living state, a very fine plant, 2-3 or more feet high, with long spikes of large scarlet secund flowers.

1. Russelia *floribunda. H. B. K. Nov. Gen. Am.* 2. *p.* 359. *Schlecht. in Linnæa*, 5. *p.* 106.

2. R. *rotundifolia. Cav. Ic.* 5. *p.* 9. *t.* 514.—Hab. Acapulco.

Ord. LXVII. PLUMBAGINEÆ. *Juss.*

1. Plumbago *Mexicana? H. B. K. Nov. Gen. Am.* 3. *p.* 224.

It seems scarcely to differ from *P. Zeylanica*, and may perhaps be cultivated.

ORD. LXVIII. NYCTAGINEÆ. *Juss.*

1. Salpianthus *purpurascens.*—Boldoa purpurascens. "*Cav. Hort. R. Madrit. t.* 7."

2. S. *arenarius. Humb. et Bonpl. Pl. Æquin.* 1. *p.* 154. *t.* 44. *H. B. K. Nov. Gen. Am.* 2. *p.* 218.—Boldoa lanceolata. *Lagasca.*—HAB. Acapulco.

1. Boerhaavia *polymorpha. Rich.—Schlecht. in Linnæa*, 5. *p.* 92.

1. Pisonia *Pacurero? H. B. K. Nov. Gen. Am.* 2. *p.* 218.

ORD. LXIX. AMARANTHACEÆ. *Juss.*

1. Iresine *celosioides. L.*

2. I. *elongata. Willd.—H. B. K. Nov. Gen. Am. p.* 200.

1. Chamissoa *altissima. Sw.—H. B. K. Nov. Gen. Am.* 2. *p.* 196. *t.* 125.

1. Brandesia *n. sp.?*—foliis lanceolatis 2-3 uncialibus longis acuminatis glabris, paniculis axillaribus, floribus globoso-capitatis.—HAB. Acapulco.

1. Celosia *cristata. L.*—cult. Acapulco.

ORD. LXX. PHYTOLACCEÆ. *Br.*

1. Phytolacca *octandra? L.—Schlecht. in Linnæa*, 5. *p.* 91.

1. Rivina *humilis. L.—H. B. K. Nov. Gen. Am.* 2. *p.* 471.

1. Petiveria *alliacea. L.—H. B. K. Nov. Gen. Am.* 2. *p.* 188.

ORD. LXXI. POLYGONEÆ. *Juss.*

1. Rumex *crispus? L.*

1. Polygonum ——— ?

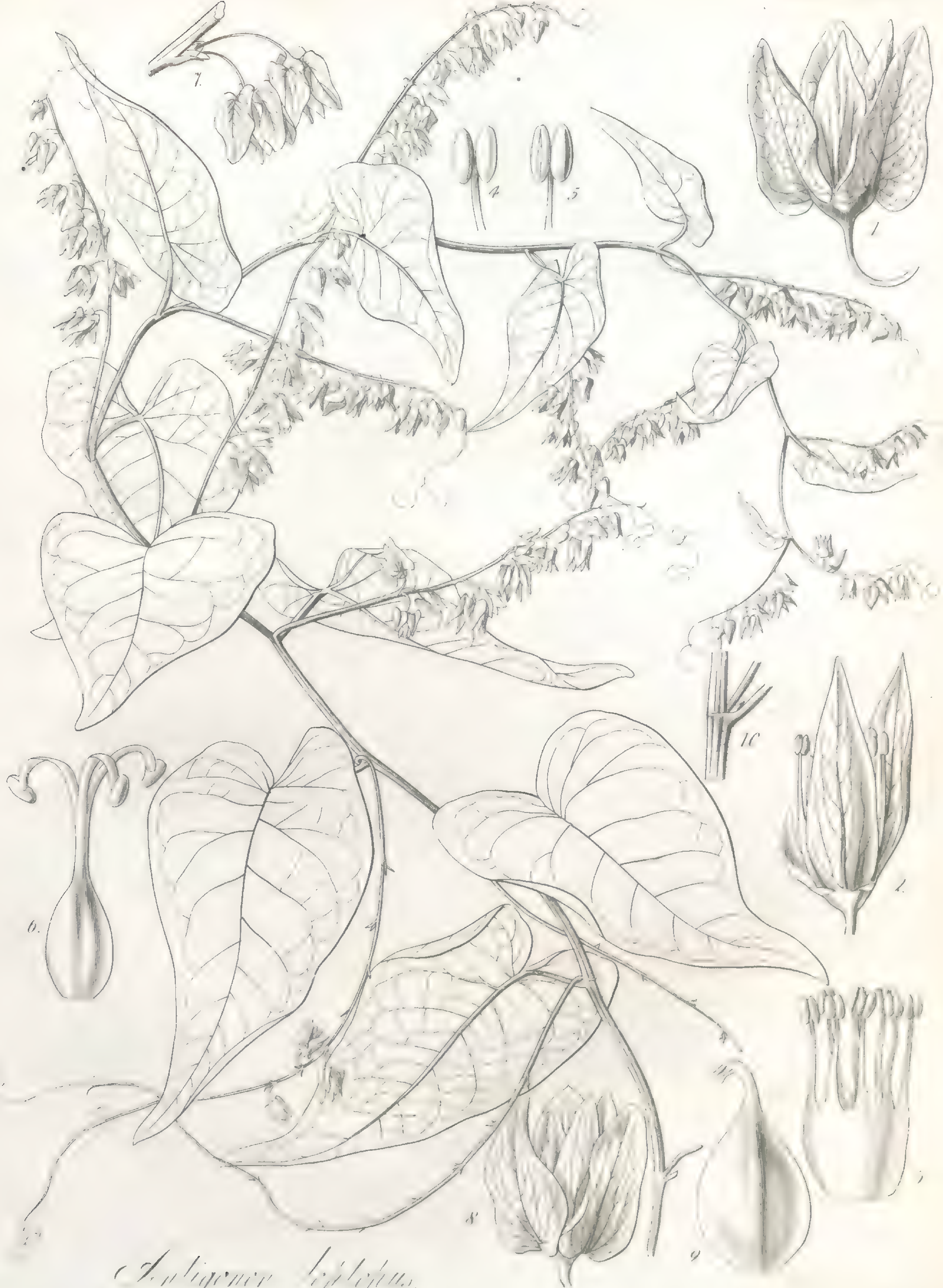
There are three species of this genus, in a very imperfect state; two of the *Persicaria* group, and one of the *Avicularia* group.

ANTIGONON. *Endlich. Gen. Pl. p.* 310.

GEN. CHAR. *Perianthium* hexaphyllum persistens biseriale, demum increscens; foliolis tribus exterioribus lato-cordatis maxime reticulatis; tribus int. ovato-lanceolatis demum reticulatis, unico sæpe abortivo. *Stam.* 8 æqualia in cupulum submembranaceum connata. *Antheræ* didymæ versatiles, loculis oblongis, intus dehiscentibus. *Ovarium* 1 obtuse trigonum. *Stylus* trifidus; stigmata reniformi-capitata. *Achenium* trigonum perianthio aucto cinctum. "*Semen* basilare, e funiculo umbilicali erectum, pyramidatum. *Embryo* in axi (?) albuminis farinacei antitropus, rectus." *Endl.*—Suffrutices *scandentes Mexicani, subpubescentes, ramis angulatis.* Folia *alterna cordata petiolata, petiolo basi amplexante, nunc stipulaceo.* Racemi *secundiflori apice cirrhosi.* Pedicelli *apice articulati,* 1-3 *e bracteis fasciculatis squamæformibus minutis.*

1. A. *leptopus*; petiolo gracili. (TAB. LXIX.)

TAB. LXIX.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Antigonon leptopus.

Of this curious genus there is one,* perhaps two species, in the Mexican collection of Andrieux, from which the excellent Endlicher has derived his character of the Genus *Antigonon*, and which he has rightly placed next to *Brunnichia*, in the order POLYGONEÆ, Trib. III. "*Polygoneæ spuriæ.*" Indeed all the three are so closely allied, that they may possibly constitute but one species, the only striking difference I can find being that Andrieux's specimens (which are not very perfect) have singularly dilated footstalks to the leaves. In the n. 117 of Andrieux, there is, on each side of the stem, at the base of the petiole, a rather large transverse stipule; but in the other specimen, or species, the base of the petiole is continued merely in the form of a slightly elevated line all round the stem, as in our plant. Perhaps the stipules themselves have been very early deciduous. In our specimen, again, there is a slight difference in the flowers, which have three outer leaves of the perianth considerably larger than the rest; and there are three inner ones, of which one is generally abortive. Our fruit, though fully formed in appearance, contains only an imperfect seed.

TAB. LXIX. *Fig.* 1. Flower; *fig.* 2. The same, the three outer leaves of the perianth being removed; *fig.* 3. Stamens, including the pistil; *fig.* 4. Outer, and *fig.* 5. inner view of an anther; *fig.* 6. Pistil:—*all magnified.*—*fig.* 7. Fruit:—*nat. size.*—*fig.* 8. Single fruit; *fig.* 9. Achenium; *fig.* 10. Portion of the stem with the scar (?) of the fallen stipule:—*magnified.*

ORD. LXXII. LAURINEÆ. *Juss.*

1. Ocotea *salicifolia. H. B. K. Nov. Gen. Am.* 2. *p.* 458.—Nectandra salicifolia. *Nees Laurin. p.* 302.

The flowers seem to be all female, and we are doubtful to what genus of *Laurineæ* of Nees von Esenbeck this should be referred. That author, indeed, places it in *Nectandra*, but he had not seen the flowers. We are rather disposed to refer it to his section OREODAPHNEÆ, and probably it may come under *Ocotea*, as now circumscribed by Nees.

There are specimens of two other *Laurineæ* in the collection, one belonging to the *Cinnamomum* tribe.

ORD. LXXIII. ARISTOLOCHIEÆ. *Juss.*

1. Aristolochia *Taliscana;* volubilis glabra, foliis petiolatis cordato-rotundatis obtusissimis basi sinu profundo lateque bilobis lobis rotundatis subtus pallidioribus, pedunculo axillari solitario unifloro folium superante, perianthii tubo breviusculo labium recurvum late ovatum intus filamentoso-papillosum æquante.

HAB. Talisco.—Apparently a distinct species from any hitherto described. The leaves about two inches long, and the same in breadth. The lip of the flower is nearly an inch long, about equal in length with the tube, suddenly bent back, clothed on the upper side with fleshy club-shaped appendages.

ORD. LXXIV. EUPHORBIACEÆ. *Juss.*

1. Jatropha *Curcas? L.*—HAB. Talisco.

1. Hermesia? *Mexicana;* pubescenti-scabra, ramis teretibus, foliis ovato-oblongis acutis serratis, spicis masculis solitariis axillaribus, perianthio masc. 3-partito, staminibus 8?

**A. platypus;* petiolo superne dilatato alato. "*Anredera?*" *Andrieux Plant. Mexic. exsicc. n.* 117.—No. 116 also, of the same collection, is an *Antigonon*, with larger flowers and leaves, and the petiole narrower, though distinctly winged; but it may be merely a variety. Both inhabit Tlacolola of Oaxaca.

Adrien de Jussieu unites the *Hermesia* of H. B. K., with *Alchornea*, Sw. How far justly we have no means of determining.

1. Croton *syringæfolius. H. B. K. Nov. Gen. Am.* 2. *p.* 67.

Hab. Acapulco.—The lower leaves are almost entirely cordate, the upper ones more approaching to ovate.

1. Pedilanthus *tithymaloides. H. B. K. Nov. Gen. Am.* 2. *p.* 63. *Bot. Reg. t.* 837.

1. Euphorbia *pilulifera. L.—Schlecht. in Linnæa,* 5. *p.* 83.—E. globulifera. *H. B. K. Nov. Gen. Am.* 2. *p.* 56.

2. E. *ocymoides. L.?—Schlecht. in Linnæa,* 5. *p.* 83.

3. E. *strigosa;* caulibus herbaceis erectis flexuosis, foliis strigoso-hirsutis lanceolatis (2 poll. longis) brevissime petiolatis integerrimis, involucris cupulatis laceratis eglandulosis paucis subumbellatis, bracteis sub 4 coloratis umbella longioribus.

This has a perennial root, bearing several flexuose branching stems, about a foot long.

1. Poincettia *pulcherrima. Grah. in Bot. Mag. t.* 3493.

1. Acalypha *rhombifolia? Schlecht. in Linnæa,* 7. *p.* 382.

Ord. LXXV. URTICEÆ. *Juss.*

1. Boehmeria *elongata. Fisch.—Schlecht. in Linnæa,* 5. *p.* 81.

1. Ficus *lancifolia;* foliis sublonge petiolatis oblongo-lanceolatis tenui-acuminatis integerrimis submembranaceis, fructibus solitariis vel ternis axillaribus globosis sessilibus glabris.

Ord. LXXVI. PIPERACEÆ. *Kunth.*

1. Piper *scabrifolium;* fruticosum, ramis obtuse tetragonis pubescentibus, foliis subcoriaceis brevi-petiolatis oblongo-ovatis brevi-acuminatis venosis utrinque scabris basi inæqualibus, spicis brevi-pedunculatis elongatis cylindraceis folio brevioribus.

2. P. *patens;* fruticosum, ramis divaricatis ad nodos geniculatis, foliis ovato-lanceolatis membranaceis acuminatis utrinque molliter pubescentibus nervosis basi acutis vix inæqualibus, spicis brevi-pedunculatis cylindraceis folio dimidio brevioribus.

3. P. *begoniæfolium;* glaberrimum, ramis teretibus, foliis oblongo-ovatis membranaceis nervosis acutiusculis basi valde inæqualibus utrinque rotundatis, spicis elongatis cylindraceis brevi-pedunculatis folium æquantibus.

Ord. LXXVII. AMENTACEÆ. *Juss.*

1. Salix *microphylla;* valde ramosa, foliis parvis patentibus sparsis sessilibus lineari-lanceolatis acutis obscure serratis costatis enervibus glabriusculis junioribus sericeis, stipulis minutis caducis, amentis coætaneis in ramulis terminalibus ovalibus parvis,

TAB. LXX.

Salix microphylla.

squamis (fœmineis) obovatis venosis pubescenti-hirtis, staminibus 2. (Tab. LXX.)—S. microphylla. *Schlecht. in Linnæa*, 6. *p.* 354.

A very remarkable species of *Salix*, with leaves like those of some small *Lythrum*, and flowers small in proportion. Our specimens possess only the male catkins.

Tab. LXX. Salix microphylla. *Fig.* 1. Outer view of a scale from the male amentum; *fig.* 2. Inner view, with flower; *fig.* 3. Leaf:—*magnified.*

MONOCOTYLEDONES.

Ord. LXXVIII. ORCHIDEÆ. *Juss.*

1. Oncidium *sp.*—Hab. Talisco.

1. Cymbidium *tenuifolium. Willd.?*—Hab. Talisco.

Ord. LXXIX. IRIDEÆ. *Juss.*

1. Sisyrinchium *sp.?*—Hab. Talisco.

Ord. LXXX. BROMELIACEÆ. *Juss.*

1. Tillandsia *usneoides. L.*—Hab. Talisco.

2. T. *vestita? Schlecht. in Linnæa*, 6. *p.* 53.

Ord. LXXXI. SMILACEÆ. *Br.*

1. Smilax *rotundifolia. Willd.*

Two other species, in a very imperfect state, are in the collection.

Ord. LXXXII. RESTIACEÆ. *Br.*

1. Eriocaulon *microcephalum? H. B. K. Nov. Gen. Am.* 1. *p.* 201.

Ord. LXXXIII. ANEILEMA. *Br.*

1. Aneilema *floribunda.*—Commelina floribunda. *H. B. K. Nov. Gen. Am.* 1. *p.* 269.

Ord. LXXXIV. ALISMACEÆ. *Rich.*

1. Alisma *virgata;* foliis latissime ovatis obtusis basi cordatis, paniculæ ramis elongatis strictis, floribus densis verticillatis, verticillis remotis, pedicellis flore vix duplo longioribus, bracteis ovatis verticillo brevioribus.

2. A. *Andrieuxii;* foliis elliptico-lanceolatis acutis basi attenuatis, paniculæ ramis elongatis strictis, floribus densis verticillatis, verticillis subremotis, pedicellis florem subæquantibus, bracteis subulatis verticillo longioribus.—Alisma. *Andrieux Pl. Mexic. Exsicc. n.* 91.

The same species was found by M. Andrieux about Tehuantepec of Oaxaca.

ORD. LXXXV. AROIDEÆ. *Juss.*

1. Pistia *Stratiotes. L.*

ORD. LXXXVI. CYPERACEÆ. *Juss.*

1. Isolepis *exigua.*—Scirpus exiguus. *H. B. K. Nov. Gen. Am.* 1. *p.* 154.

1. Fimbristylis *ferruginea.*—Isolepis ferruginea? *Schlecht. in Linnæa*, 6. *p.* 27.

1. Cyperus *exaltatus. Retz.*

C. exaltatus is indeed an East Indian species, but we scarcely see how this differs from it. It agrees too in many points with *C. Toluccensis,* H. B. K., but the glumes are not reflexo-mucronate.

ORD. LXXXVII. GRAMINEÆ. *Juss.*

1. Panicum *maximum. Jacq.*

2. P. *sp.*—elatum, foliis lanceolatis acuminatis basi cordato-amplexantibus glaberrimis, panicula ramosissima, spiculis compressis, glumis inæqualibus obtusis striatis glabris.

3. P. (Digitaria) *adscendens? H. B. K. Nov. Gen. Am.* 1. *p.* 97.

Very nearly allied to *P. commutatum* from the East Indies.

4. P. (Hymenachne) *Myurus. Lam.*—*H. B. K. Nov. Gen. Am.* 1. *p.* 98.

1. Pennisetum *purpurascens. H. B. K. Nov. Gen. Am.* 1. *p.* 113.

1. Ctenium *Americanum. Spr.*

1. Arundo *nitida. H. B. K. Nov. Gen. Am.* 1. *p.* 149. *t.* 688.

1. Cenchrus *echinatus. L.*

1. Eragrostis *ciliaris. P. Beauv.*—Poa ciliaris. *H. B. K.*

2. E. *plumosa. Trin.*—Poa. *Retz.*

ACOTYLEDONES.

ORD. LXXXVIII. FILICES.

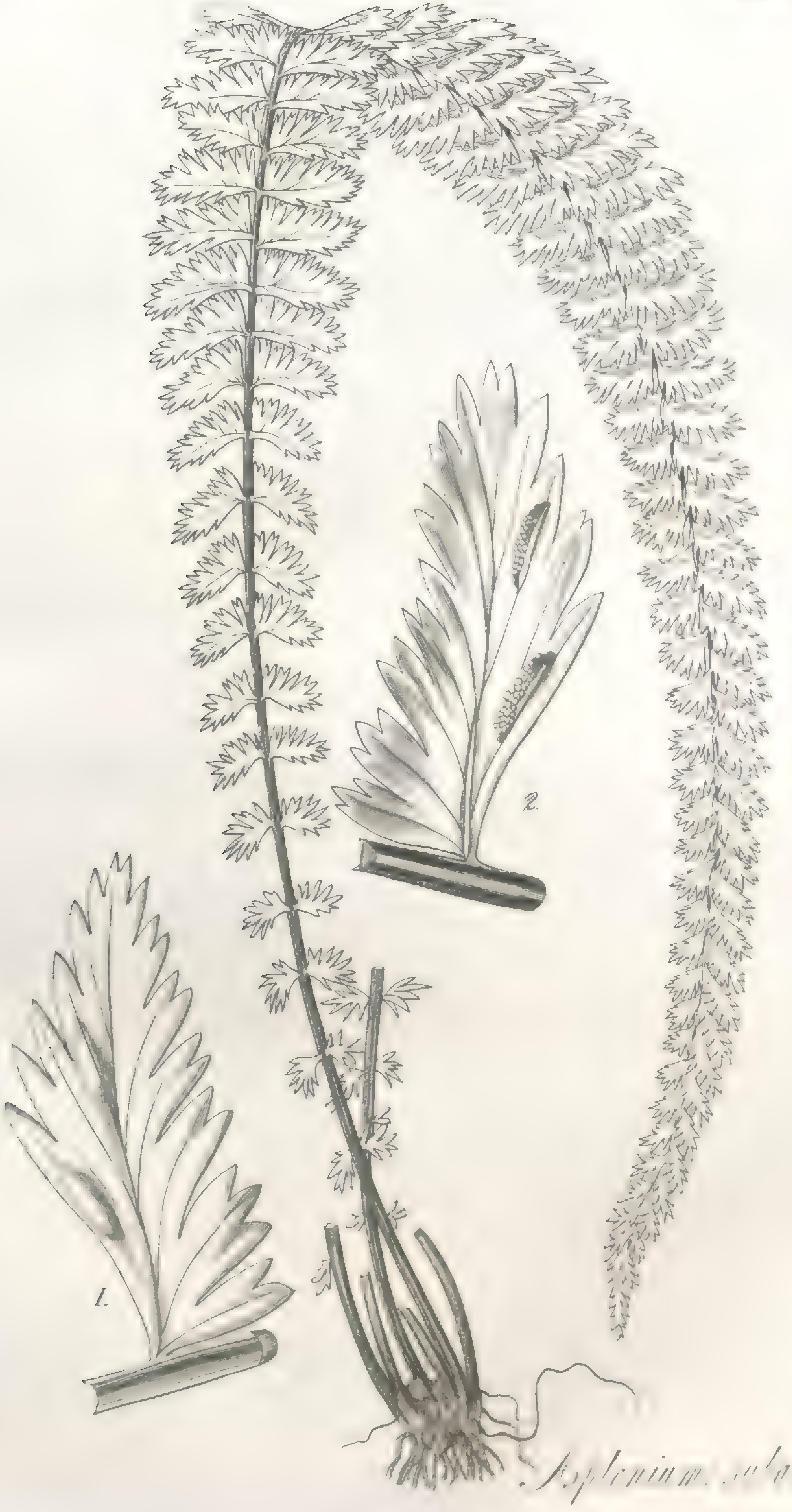
1. Lycopodium *pallescens. Hook. et Grev. in Bot. Misc. v.* 2. *p.* 381.—*An Presl, Reliq. Hœnk. p.* 79?

1. Marsilea *vestita. Hook. et Grev. Ic. Fil. p.* 159.—HAB. Talisco.

1. Nephrolepis *exaltata. Schott.*—Aspidium exaltatum. *Sw.*

1. Asplenium *Nidus. L.*

2. A. *subalatum;* cæspitosum pinnatum, pinnis oblongis rigidis subacutis subtus basi superiore truncata margine inferiore dimidiato integro, reliquo inciso-pinnatifido laciniis



Asplenium subalatum

plerumque bifidis, soris longitudinalibus 1-2 prope marginem inferiorem, rachide (aterrima nitida) facie inferiore concaviuscula alato-marginata, dorso semicylindrico. (Tab. LXXI.)

A very nearly allied species to this, if not the same, differing only in the more acuminated pinnæ, is No. 1287 of Mr Cuming's collection from Columbia. In our Mexican specimens, probably from not being submitted to pressure when freshly gathered, the rachis is incurved, and all the pinnæ refracted, so that they all point to one side. The fructifications are so sunk into the frond, as to give a tuberculated appearance to the anterior surface.

Tab. LXXI. *Fig.* 1. Anterior, and *fig.* 2. posterior view of a fertile pinna:—*magnified.*

1. Woodwardia *radicans. Sw.*

1. Blechnum *occidentale. L.*

Ord. LXXXVIII. HEPATICÆ.

1. Fimbriaria *tenella. Nees ab Esenb. Hor. Phys. Berol. p.* 45. *Bischoff, Lebermoose, in Act. Acad. Nat. Cur. v.* 17. *P. II. p.* 1022. *t.* 69. *f.* 2.—Hab. Talisco.

SUPPLEMENT.

By a reference to the first page of this work, it will now be seen that we have described, as far as lay in our power, the species of the various collections made during the voyage of H.M.S. *Blossom*, with the exception of those of Rio Janeiro. This was the first and it was the last place visited by the Naturalists. But the collection is so small, the specimens in such very wretched condition, and those few plants which can be determined so well known, that we think it unnecessary to enumerate them. We believe we shall further the cause of science much more by occupying the remaining pages of our work with a Supplement to the *Californian Collection*, which we are enabled to do from that made, chiefly at Monterry and San Francisco, (at no great distance from the coast,) by the unfortunate Douglas, as narrated in the *Companion to the Botanical Magazine*, vol. 2. p. 79, &c.; and from another, very recently sent to us by Mr Tolmie, from the "*Snake Country*," in the interior of California. This is a name given to the vast extent of Prairie through which Lewis' branch, or the *Snake River*, holds its course. Fort Hall is situated at the confluence of Blackfoot with Snake River, near Blackfoot Hill, in N. lat. 42° 30′, W. long. 114°. Snake Fort is built at the junction of Reed's River with the Snake, the position of which is in N. lat. 44° 20′, long. 116° W. The specimens, in beautiful preservation, were gathered, in the summer of 1837, by a friend of Mr Tolmie, who conducted a party from Fort Vancouver, on the Columbia, to the rendezvous of the American Trappers, in the interior of California. Some few of the specimens are from the "*Green River*;" for the meeting of the Beaver Trappers, who, to the number of 500 or 600, are scattered through the Rocky Mountains and adjacent country, was held in that year in the valley of the "*Green River*," a stream which is considered to be probably the main branch of the Rio Colorado, and which empties itself into the Gulf of California. There is not, perhaps, in the whole of North America, a district more interesting to the Botanist than that from which these plants are derived; situated near the western foot of the Rocky Mountains, at an immense distance from the coast, and at a great elevation, as may be inferred from the fact of its being near the sources of two great rivers, the one having its course to the north (into the Columbia), the other to the south (into the Gulf of California); and whose respective windings seem to circumscribe the whole of New California, except that portion of it which is washed by the Pacific Ocean. If other gentlemen attached to the hunting expeditions of the Hudson's Bay and American Companies would thus occupy a portion of their leisure time, we should soon be as well acquainted with the vegetation of the interior of this vast continent as we now are with that of its coasts.

CALIFORNIA.—SUPPLEMENT.

Where not otherwise mentioned, it is to be understood that the following species are from the collection of Mr Douglas. They were presented by the Horticultural Society of London, in whose service Mr Douglas was at the time that he gathered them.

Ord. I. RANUNCULACEÆ. *Juss.*

1. Ranunculus *aquatilis. L.—Hook. et Arn. in Bot. of Beech. Voy. v.* 2. *p.* 134. *Torr. et Gray, Fl. of N. Am.* 1. *p.* 15.—var. *brachypus;* pedunculis folio brevioribus.

This var. has all the leaves capillaceo-multifid: the segments divaricated. Peduncles less than an inch long, invariably shorter than the leaves.

2. *R. glaberrimus. Hook. Fl. Bor. Am.* 1. *p.* 12. *t.* 5. A. *Torr. et Gr. Fl.* 1. *p.* 19.

Hab. Snake Country: Blue Mountains. (*Tolmie.*)

3. R. *hebecarpus;* gracilis ramosus patenti-hirsutus foliosus, foliis longe petiolatis inferioribus tripartitis superioribus triternatim partitis segmentis cuneatis 3-5-fidis, pedunculis oppositifoliis folii longitudine, petalis 5 calycem subæquantibus, carpellis suborbicularibus compressis stylo recurvo acuminatis tuberculatis hirsutis.—*R. parviflorus. γ. Torr. et Gr. Fl.* 1. *p.* 25.

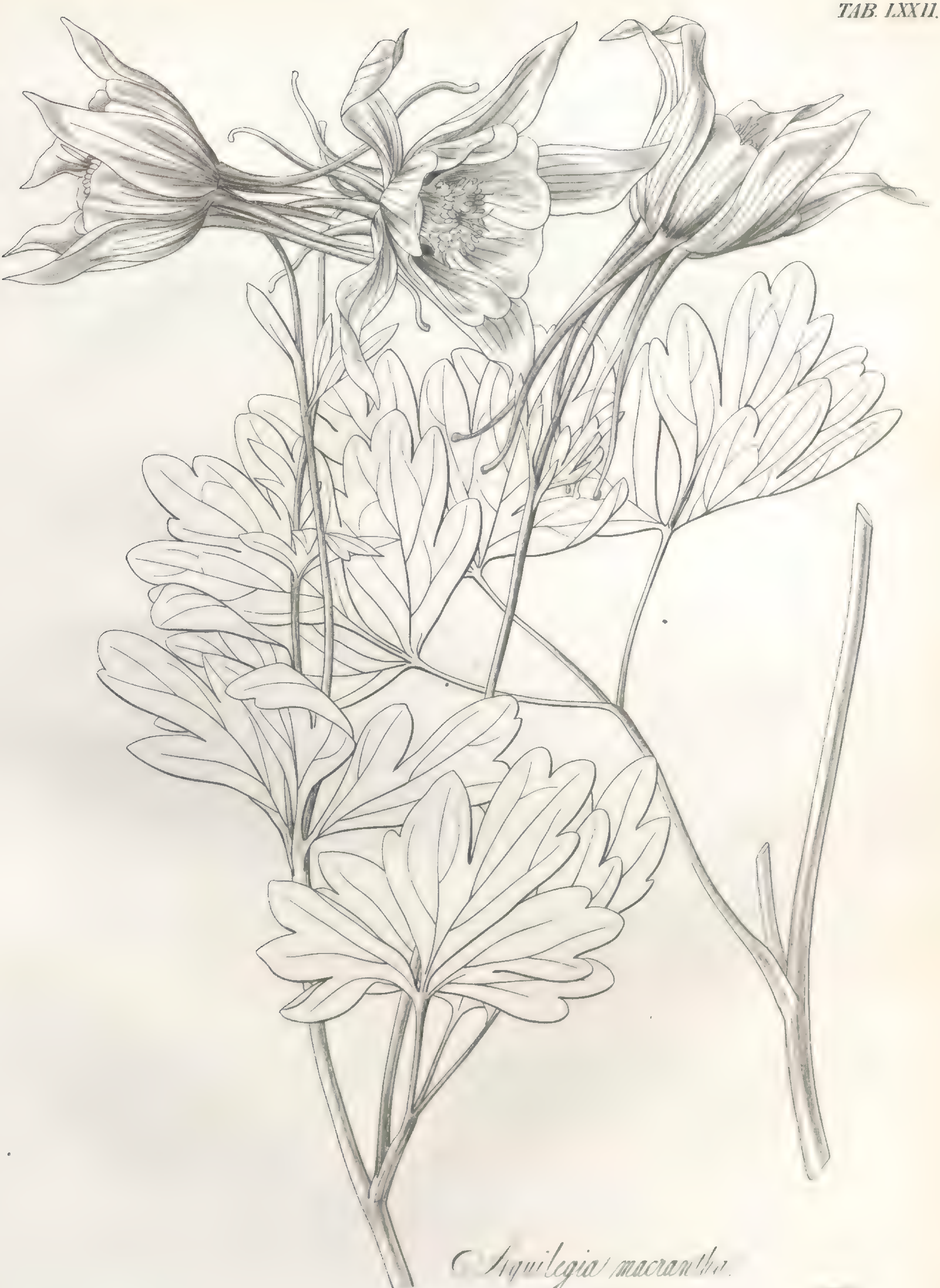
This will rank near *R. Chilensis;* from which, however, it is readily discriminated by its smaller size, fewer flowers and petals, more deeply divided leaves, and especially by the tuberculated and hispid carpels. The much more hairy leaves and carpels, and the deeply divided leaves, distinguish it from *R. parviflorus,* Sm., to which, in other respects, it bears a considerable resemblance.

4. R. *dissectus;* caule erecto glabriusculo ramoso, foliis radicalibus inferioribusque longe petiolatis bi-tripinnatim sectis hirsutis supremis minus divisis sessilibus, laciniis lineari-lanceolatis acutissimis basi decurrentibus, vaginis elongatis sulcatis hispidissimis, floribus subpaniculatis, calycibus reflexis hispidissimis, petalis 11-14 obovato-oblongis, ovariis stylo brevi recurvato.

A species remarkable for the much divided leaves in a pinnated manner, and for the segments being broad and decurrent at the base. The flowers are large, many-petaled. It may be placed near *R. orthorhynchus,* Hook. Fl. Bor. Am. v. 1. p. 21. t. 9; like which, it has a root formed of many thickish descending fibres.

1. Isopyrum *occidentale;* apetalum, radice —? petiolis basi vix dilatatis, capsulis 6-7 oblongis compressis transversim venosis patentibus stylo filiformi apice recurvo mucronatis 8-9 spermis.

This appears to belong to the *Enemion* of Rafinesque and De Candolle, which I can only consider as an apetalous *Isopyrum.* From *Enemion biternatum,* which I still think may prove a var. of *I. thalictroides,* the present one differs in the smaller sepals, scarcely dilated base of the petioles, and especially in the more numerous capsules, and their different figure and direction, and the number of seeds: in the



Aquilegia macrantha.

Enemion triternatum, the capsules are only two or three in number, reflexed, broadly ovate, with two or three oblique veins, two- or at most three-seeded, tapering gradually into a long recurved style. This also seems to be the structure of the fruit of *Isop. thalictroides*, judging from Jacquin's figure (*Fl. Austr. t.* 105), for my own specimens of that species do not possess the fructification.

1. Aquilegia *cærulea;* calcare stricto subulato limbum duplo superante apice clavato. (Tab. LXXII.)—*Torr. et Gr. Fl.* 1. *p.* 30.—A. leptocera. *Nutt.*

Hab. Snake country, between Henry's and Fish Rivers. (*Tolmie.*)—The flowers will at once distinguish this from all the other *Aquilegiæ*, for they are nearly three inches in diameter, and the long subulate slender straight spur is also nearly three inches long. The colour is probably blue in the recent state, nearly white when dry.

Tab. LXXII. Aquilegia macrantha:—*nat. size.*

1. Delphinium (Delphinastrum, pet. inf. limbo integro) *grandiflorum. L.—Sims, Bot. Mag. t.* 1686. *De Cand. Prod. v.* 1. *p.* 53.—β. *variegatum.* D. variegatum. *Torr. et Gr. Fl.* 1. *p.* 32.

In the Californian plant, which is, I think, identical as to species with the *D. grandiflorum* of Siberia and China, the upper petals are yellow, the lower ones with the yellow spot less distinct than in the variety of the Old World, and the leaves have shorter and thicker segments. In one of our specimens, the whole of the petals are variegated, dingy yellow and blue.

2. D. (Delphinastrum, pet. inf. limbo bifido) *azureum.—Mx. Fl. Am. v.* 1. *p.* 314. *Delessert, Ic. Select. v.* 1. *p.* 60. *De Cand. Prod. v.* 1. *p.* 54. *Torr. et Gr. Fl.* 1. *p.* 32.

3. D. (Delphinastrum, *Fl. N. Am.* 1. *p.* 32. pet. inf. limbo bifido) *Menziesii.—De Cand. Prod. v.* 1. *p.* 54. *Hook. Fl. Bor. Am. v.* 1. *p.* 25. *Bot. Reg. t.* 1192. *Torr. et Gr. Fl.* 1. *p.* 31.

Very similar in the structure of the flowers to the preceding, but these flowers are larger and more hairy. —From the coast, *Douglas*, to the Snake Country. (*Tolmie.*)

4. D. (Delphinastrum) *simplex.—Dougl. in Hook. Fl. Bor. Am. v.* 1. *p.* 25.—β. calcare calycem subæquante.

Of this variety, which differs from Mr Douglas' in no essential particular, except in the shorter spur, there are two states in the collection; one with the stem and leaves downy, the other quite glabrous. In all, the form and relative size of the petals are the same; and I cannot agree with those botanists who have multiplied the species of the Genera *Delphinium* and *Aconitum* upon the slightest possible grounds. Perhaps indeed Messrs Torrey and Gray are right in referring this to *D. Menziesii.*

5. D. (Delphinastrum) *exaltatum. Ait.—De Cand. Prod. v.* 1. *p.* 54. *Hook. Fl. Bor. Am. v.* 1. *p.* 25.—D. Californicum. *Torr. et Gr. Fl.* 1. *p.* 31.

These are very fine specimens, with their densely flowered racemes sometimes a foot in length. In other respects, this plant entirely agrees with my specimens from the eastern side of North America. Messrs Torrey and Gray consider it a distinct species.

6. D. (Delphinastrum) *sarcophyllum;* petiolis basi dilatatis, foliis carnosis sub-peltatis tripartitis inferiorum segmentis obcordatis crenato-lobatis superiorum oblongis integerri-

mis, petalis inferioribus spathulatis limbo bifido ciliato disco parce piloso, superioribus elongatis exsertis apicibus pilosis, calcare calyce glabro subduplo longiore.—D. nudicaule. *Torr. et Gray, Fl.* 1. *p.* 33.

A very singular and most distinct species, two feet and more high, branched. Leaves principally from the base, but by no means all radical, thick and fleshy, of three deep obcordate and lobed segments. Flowers in large lax panicles, of a red-purple colour, with a very long spur, nearly glabrous. Petals all spathulate; the upper ones longer than the calyx, much exserted. The *D. nudicaule* of Torrey and Gray, though found by Mr Douglas, does not quite accord with this plant, and these authors do not notice the singularly fleshy leaves.

ORD. II. BERBERIDEÆ. *Vent.*

1. Berberis *Aquifolium. Pursh.—Hook. Fl. Bor. Am. v.* 1. *p.* 29 (*excl. syn.* B. repentis). *Lindl. Bot. Reg. t.* 425. *Hook. et Arn. Bot. of Beech. Voy. p.* 134. *Torr. et Gr. Fl.* 1. *p.* 50. —Mahonia Aquifolium. *Nutt.—De Cand. Prod. v.* 1. *p.* 108.*

1. Epimedium *hexandrum. Hook. Fl. Bor. Am. v.* 1. *p.* 30. *t.* 13.—Vancouveria hexandra. *Morr. et Decaisne, Ann. des Sc. Nat. 2d Ser. v.* 2. *p.* 351. *Torr. et Gr. Fl.* 1. *p.* 52.

My specimen of this plant shows that the flowers are sometimes in rather large lax panicles. Some of the leaflets are more than two inches in diameter.

ORD. III. PAPAVERACEÆ. *Juss.*

The plants of this family in Mr Douglas' collection are possessed of peculiar interest; affording, as they do, eight new species, and three new genera; of which latter, one is remarkable for the beauty of its blossoms, as another is for its frutescent habit and rigid coriaceous leaves and fruit, an anomaly in the Order. Some of these having been cultivated in the garden of the Horticultural Society, our valued friend Mr Bentham has directed his attention to them, and has admirably characterized the new genera and species above alluded to, in the *Transactions of the Horticultural Society of London.* His characters we cannot do better than adopt.

PLATYSTEMON. *Benth.*

GEN. CHAR. *Sepala* 3, ovata, caduca, pilosa. *Pet.* 6. *Stamina* numerosa. *Filamenta* dilatata, membranacea, obcordata. *Antheræ* lineares, biloculares, lateraliter dehiscentes. *Ovaria* plurima, (10 et ultra), linearia, stigmate sessili lineari terminata. *Capsulæ* totidem, distinctæ, torulosæ, articulatæ, indehiscentes, transversim multiloculares, extus piloso-hispidæ. *Semina* in quoque loculo solitaria, pendula. *Benth.*

1. Platystemon *Californicum. Benth. Hort. Trans. v.* 1. *2d. Series, p.* 405. *Lindl. Bot. Reg. t.* 1679. *Hook. Bot. Mag. t.* 3579. *Torr. et Gr. Fl.* 1. *p.* 65.

"This little annual," Mr Bentham observes, "flowered" (the first season) "very sparingly; but the fine specimens transmitted by Mr Douglas in a dry state, promise that it may become as interesting to the horticulturist from its beauty, as it is to the botanist, from forming the connecting link between the *Ranunculaceæ* and *Papaveraceæ.* The trisepalous calyx, and numerous distinct ovaria, would have placed it in the former Order, were it not for the structure of the anthers, the very deciduous sepals, and the general habit, which do not admit of its being removed from *Papaveraceæ,* especially considering its close affinity with *Eschscholtzia,* (*Chryseis,* Lindl.) through *Platystigma* and *Dendromecon.*"

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* There is a very distinct species of *Berberis* (Section *Mahonia*), in Mr Andrieux's collection of "*Plantæ Mexicanæ exsicc. n.* 469," without any name, and with only the remark, "Locus proprius incertus." It may be thus characterized:—

B. *Andrieuxii;* foliis pinnatis, pinnis 4-5-jugis cum impari oblongis obtusis submembranaceis reticulatim venosis læviter serratis, racemis laxis sparsis folio subbrevioribus.

The original discoverer of this curious plant, it is but right to state, is Mr Menzies, who gathered specimens in California, during the celebrated voyage of Captain Vancouver, and distributed them to his botanical friends in this country; but which, I regret to say, have, along with many other of his treasures thus generously dispersed, remained to the present day unpublished.—The *P. leiocarpum,* Fisch., is considered by Messrs Torrey and Gray a variety of this.

PLATYSTIGMA. *Benth.*

Sepala 3, ovata, caduca, pilosa. *Petala* 4-5. *Stamina* numerosa. *Filamenta* filiformia. *Antheræ* lineares, biloculares, lateraliter dehiscentes. *Stigmata* 3, ovata, acuta, erecto-divergentia. *Capsula* oblonga, basi attenuata, 1-locularis, 3-angularis, 3-sulcata, 3-valvis, ab apice ad basin dehiscens: valvulis conduplicatis margine in placentis filiformibus productis. *Semina* numerosa, minuta, ovoidea, nigra, lævissima, nitida. *Benth.*

1. Platystigma *lineare. Benth. l. c. p.* 407. *Hook. Ic. Pl.* 1. *t.* 38. *Lindl. Bot. Reg. t.* 1954. *Hook. Bot. Mag. t.* 3575. *Torr. et Gr. Fl.* 1. *p.* 65.

Herba pusilla, cæspitosa. *Caules* brevissimi, dense foliosi. *Folia* linearia, integerrima, amplexicaulia, 1-nervia. *Scapi* semipedales, erecti, uniflori, patentim pilosi.—A smaller plant than *Platystemon,* and growing in closer tufts, but otherwise resembling it very much in habit, though so different in botanical character. The flowers are yellow, rather smaller than in *Platystemon.*

DENDROMECON. *Benth.*

Sepala 2, ovata, caduca. *Pet.* 4. *Stamina* plurima. *Filamenta* filiformia. *Antheræ* lineares. *Stigmata* 2, sessilia, brevia, crassiuscula. *Capsula* elongata, siliquæformis, 1-locularis, bivalvis, valvulis coriaceis duris a basi ad apicem dehiscentibus. *Placentæ* marginales, filiformes. *Semina* plurima, majuscula, pyriformia, lævia.—Fruticulus *dense foliosus, rigidus, glaber.* Folia *lanceolata, acuta, denticulata, penninervia, reticulata, rugosa, rigida.* Pedunculi *axillares, uniflori.*

1. Dendromecon *rigidum. Benth. l. c. p.* 407. *Hook. Ic. Plant.* 1. *t.* 37. *Torr. et Gr. Fl.* 1. *p.* 64.

A very singular plant, as Mr Bentham justly remarks, in this Order; with completely woody stems, and rigid pungent leaves, scabrous rather than toothed at the margin, the principal nerves few, and running nearly parallel with the midrib, united by transverse ones, which give a reticulated appearance, particularly on the underside, where the nerves are prominent.

1. Chryseis *Californica;* caule ramoso folioso, foliorum segmentis linearibus, pedunculi cyatho-infundibuliformi, limbo maximo dilatato, calyce longe acuminato.—Eschscholtzia Californica. *Cham.* (*non Lindl. Hook. etc.*)—E. crocea. *Benth. l. c. p.* 407. *Lindl. Bot. Reg. t.* 1677. *Hook. Bot. Mag. t.* 3495.—Chryseis crocea. *Torr. et Gr.* 1. *p.* 63.—*β. minor.* Chryseis compacta. *Lindl. Bot. Reg. t.* 1948.

I was much struck with the circumstance of there being no specimens of the *C. Californica* of our gardens in this Californian collection, and was thence led to refer to our first authority for this species, the figure and description of Chamisso, in the *Horæ Physicæ Berolinenses,* (p. 73. t. 15.) as well as to original specimens in my herbarium ; and it results from this examination, that Chamisso's original plant, gathered at San Francisco, as well as Mr Menzies' original specimens from Monterry (lat. 36°), are assuredly what we have hitherto called *C. crocea*. If, then, the species be really distinct, which perhaps may admit of some doubt, it is imperative that we transfer the name of "*Californica*" to the plant of Chamisso, who has so well figured and described it. The more northern plant, the principal station for which seems to be from lat. 40° to the sources of the Multnomak, in lat. 43°, may then bear the name of its discoverer, *C. Douglasii*. The localities they inhabit seem to be also different : the Californian species is found in dry sandy (sea ?) shores, at the port of San Francisco (*Chamisso*) ; the northern plant, in open prairies, on the banks of streams.

2. C. *cæspitosa ;* caulibus abbreviatis basi foliosis, foliis subradicalibus segmentis lineari-dilatatis cuneatis, pedunculis elongatis erectis, cyatho tubuloso limbo subnullo, calyce apice attenuato longe acuminato. *Benth. l. c. p.* 408. (Eschscholtzia.) *Torr. et Gr. Fl.* 1. *p.* 63.

"Flowers yellow, considerably smaller than those of *C. Douglasii* and *Californica.*"

3. C. *tenuifolia ;* caulibus abbreviatis basi foliosis, foliis radicalibus segmentis lineari-subulatis, pedunculis elongatis erectis, cyatho tubuloso limbo brevissimo, calyce obtusiusculo acuminato. *Benth. l. c. p.* 408. (Eschscholtzia). *Torr. et Gr. Fl.* 1. *p.* 64.

4. C. *hypecoides ;* caulibus elongatis ramosis foliosis, foliorum segmentis breviter lineari-cuneatis, pedunculi appendice tubuloso limbo subnullo, calyce apice breviter acuminato. *Benth. l. c. p.* 408.—(Eschscholtzia.) *Torr. et Gr. Fl.* 1. *p.* 64.

"Habit nearly that of *C. Douglasii* ; but the leaves are much smaller, and the flowers not one-third the size. It bears much resemblance to *Hypecoum grandiflorum.*"

1. Meconopsis *heterophylla ;* foliis paucis remotis pinnatisectis, segmentis inferiorum ovatis subincisis subpetiolulatis, superiorum linearibus integerrimis subconfluentibus, capsulis lævibus 5-6-valvibus. *Benth. l. c. p.* 408. *Torr. et Gr. Fl.* 1. *p.* 61.

2. M. *crassifolia ;* caule basi folioso, foliis crassiusculis glaucis pinnatisectis, segmentis inciso-lobatis margine revoluto foliorum inferiorum ovato-cuneatis superiorum lineari-cuneatis, capsulis lævibus. *Benth. l. c. p.* 408. *Torr. et Gr. Fl.* 1. *p.* 61.

"These two species of *Meconopsis* belong to the first section of De Candolle. The flowers of both are of an orange-red, about the size of those of *Papaver Argemone.*"

ORD. IV. FUMARIACEÆ. *De Cand.*

1. Dielytra *chrysantha ;* caule elato folioso ramoso, foliis bi-tripinnatim sectis segmentis linearibus acutis glaucis, panicula elongata, bracteis calycibusque late ovatis obtusis, petalis spathulatis exterioribus basi vix gibbosis, interioribus dorso fere per totam suam longitudinem lato-alatis, stigmate latissimo truncato. (TAB. LXXIII.)

Planta ab omnibus hujusce generis insigniter distincta. *Caulis* herbaceus bi-tripedalis, erectis, teres, foliosus. *Folia* inferiora 6-8-uncialia, reliqua sensim minora, bi-tripinnatim secta, divisionibus vel pinnis primariis remotis, segmentis ultimis linearibus, acutis, glaucis. *Rachis* teres. *Panicula* elongata, multiflora. *Flores* majusculi, speciosi, aurei. *Bracteæ* calycesque ovati, membranacei, obtusi. *Corolla* fere unciam

Dielytra chrysantha

TAB LXXIV.

Pachypodium integrifolium.

longa. *Petala* clausa, omnia spathulata versus apicem dorso insigniter concavo-carinata: 2 exterioribus basi vix gibbosis: 2 interioribus apice unitis, dorso per totam fere longitudinem lato-alatis, ala undulata protrusa. *Stamina* diadelpha, singula phalanx e filamentis tribus, leuiter coadunatis, apicibus liberis. *Antheræ* lineares. *Germen* lineare in stylo longo attenuatum. *Stigma* magnum, marginibus deflexis undulatis apice truncato.

Tab. LXXIII. Dielytra chrysantha. *Fig.* 1. Flower; *fig.* 2. Inner petals; *fig.* 3. Stamens and pistil.

Ord. V. CRUCIFERÆ. *Juss.*

1. Turritis? *lasiophylla;* simplex elongata stricta inferne pilis simplicibus rigidis hispida superne glabriuscula, foliis oblongo-lanceolatis pinnatifidis petiolatis supremis linearibus integerrimis basi attenuatis, calycibus subpilosis petalis, linearibus (flavis) unguiculatis, siliquis (immaturis) longis angusto-linearibus strictis arcte deflexis.

A very distinct species, 1½ foot to 2 feet high, very straight, unbranched; lower leaves on long petioles, pinnatifid with sharp unequally sized teeth. Petals yellow, linear, about half as long again as the calyx. Young pods very narrow, not in the least curved, deflexed.

1. Arabis *blepharophylla;* foliis utrinque nudis marginibus pilis albis rigidissimis simplicibus vel furcatis ciliatis, radicalibus obovato-spathulatis caulinis oblongis sessilibus, calyci foliolis ellipticis obtusis superne stellato-pubescentibus, petalis obovatis in unguam attenuatis (purpureis).

A small plant, three or four inches high, with a perennial root. Stem simple. Radical leaves several, spreading, an inch or more long, naked on both sides, those of the stem hispid on the costa beneath; all of them margined with white, singularly rigid, simple or forked hairs. Calyx membranaceous, slightly coloured, and scariose at the margin, half of the length of the petals, which appear to be purplish.

1. Pachypodium *integrifolium;* glaberrimum, foliis lineari-lanceolatis integerrimis subglaucis, floribus fructibusque dense corymbosis, siliquis angusto-linearibus teretibus torulosis, stylo brevi, stigmate parvo capitato. (Tab. LXXIV.)—*Nutt. in Torr. et Gr.* 1. *p.* 96.

Hab. Snake Country. Blackfoot River. (*Tolmie.*)—Of the genus of this we are very doubtful, the fruit not being ripe, though the siliquæ seem fully formed. But these siliquæ are quite terete (the valves being concave), singularly torulose or moniliform, and there is a great disposition (when saturated with moisture) in their valves, not in the rest of the seed-vessel, to break at the joints. The root is perennial; from the summit of which arise one or more stems 12-14 inches high, branched at the base, and above also bearing many short leafy branches, each terminated by a dense corymb of pale purple flowers. Calyx glabrous, membranous. Petals obovato-lanceolate, with long claws. The fruit likewise forms corymbs, about an inch long, slightly curved upwards. Seeds in a single row, oblongo-ovate, minutely dotted. Embryo unformed in our specimen.*

Tab. LXXIV. *Fig.* 1. Flower; *f.* 2. Siliqua with the valves separated; *f.* 3. Unripe seed:—*magnified.*

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* After the above had been printed under the name of *Cardamine? torulosa*, Hook. et Arn., authentic specimens in Dr Boott's Herbarium have proved to us that this is the *Pachypodium integrifolium*, l. c. The genus is founded upon *Macropodium laciniatum*, Hook. Bot. Misc. 1. p. 341. t. 68. (which has much compressed pods); and is separated by Mr Nuttall from *Macropodium* (Br.) on account of the incumbent cotyledons and narrower siliquæ, with shorter stipes. The present plant has the siliquæ perfectly terete and torulose, and scarcely differs from *Cardamine* or *Arabis*, except in the direction of the radicle, which indeed, though dorsal in its origin, is applied obliquely to the cotyledons.

1. Streptanthus *glandulosus;* inferne piloso-hispidus, foliis lineari-oblongis dentato-subpinnatifidis dentibus glandulosis, radicalibus petiolatis caulinis profunde sagittatis amplexicaulibus, floribus erecto-patentibus (purpureis) secundis, siliquis longe linearibus patentibus curvatis valvis reticulatis uninervibus. *Hook. Ic. Pl.* 1. *t.* 40. *Torr. et Gr. Fl.* 1. *p.* 77.

Quite different from the *S. maculatus*, Nutt., from the *obtusifolius*, Hook. Bot. Mag. t. 3317, as well as from the *S. hyacinthoides*, Hook. Bot. Mag. t. 3516. The lower part of the plant is always more or less hispid, the leaves pinnatifid (the uppermost ones sometimes excepted), with the teeth or segments terminated by a gland; the flowers (of the same colour as the last-mentioned handsome species) never drooping, but secund; the siliqua always curved, glabrous.

2. S. *sagittatus;* subglaber, foliis radicalibus spathulatis caulinis sessilibus sagittatis integerrimis acutis inferioribus oblongis superioribus linearibus, floribus siliquisque erectis, petalis obovatis longe tenuiterque unguiculatis.—*Nutt. in Torr. et Gr. Fl.* 1. *p.* 76.

Hab. Snake Country, about Thomas' Fort. (*Tolmie.*)—An erect, rather stout plant, a foot to 18 inches high, glabrous, except in the petioles of the lower leaves, which are distantly ciliated. Stem-leaves strongly sagittate, in our specimens 4-5 inches long; but in general 2-3 inches.

3. S. *flavescens;* pilosus, foliis lineari-oblongis inferioribus petiolatis dentato-pinnatifidis dentibus glandulosis caulinis sessilibus integerrimis, floribus erectis (flavescentibus,) petalis linearibus acutis, siliquis (immaturis) erectis hirsutis. *Hook. Ic. Pl. t.* 44. *Torr. et Gr. Fl.* 1. *p.* 77.

The few specimens of this plant in our collection appear to have the habit and character of *Streptanthus.* They are small, 6-8 inches high; simple, unbranched; the cauline leaves sessile, but not amplexicaul, nor in any way auricled at the base. The flowers are yellow, but the anthers have a purplish tinge. Germen and young fruit (which is erect) hairy; style evident; stigma capitate.

1. Hesperis *Menziesii.* (Tab. LXXV.)—*Hook. Fl. Bor. Am.* 1. *p.* 60.—Phœnocaulis cheiranthoides. *Nutt. Torr. et Gr. Fl.* 1. *p.* 91.

Hab. Pine Creek, in the Snake Country. (*Tolmie.*)—Very fine specimens of this plant are in the beautiful collection of Mr Tolmie, from the Snake Country, which enable us to give a figure of it. Radical leaves large, oblongo-spathulate, hoary, with minute, dense, stellated down, tapering into petioles, which are dilated at the base, quite destitute of pubescence, glossy, and of a bright straw-colour. Scapes, as they may be called, (rather than stems,) scarcely twice the length of the root-leaves, nearly glabrous, as are the small oblong leaves which they bear themselves. Corymbs of many large bright purple flowers. Young siliquæ spreading.*

Tab. LXXV. *Fig.* 1. Pod; *fig.* 2. Another pod, with one valve removed:—*natural size.*—*fig.* 3. Seed and podosperm; *fig.* 4. Embryo; *fig.* 5. Embryo in an unusual state:—*magnified.*

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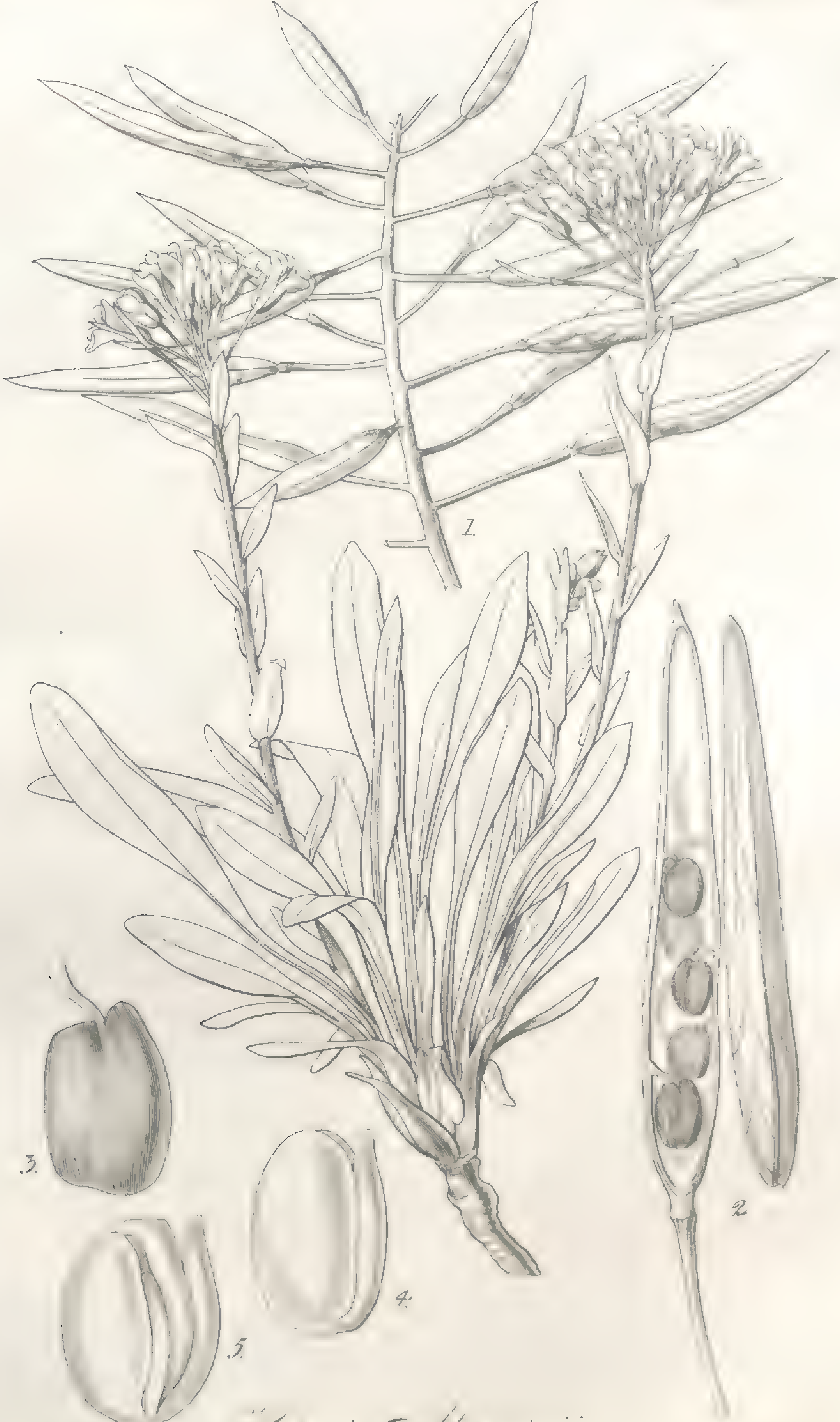
* Since the above was in type, we have had the pleasure of seeing the fruit of this beautiful plant, sent to Dr Boott by Mr Nuttall, as his *Phænocaulis cheiranthoides.* This fruit indeed differs (as may be seen from that which we have now added to our figure) from *Hesperis* (we more particularly allude to *H. aprica*), in the pods being broader, fewer, about (3)-seeded, the seeds without margin; and in having the cotyledons accumbent; though in our seed, which had a third imperfect cotyledon, the cotyledons were incumbent. In every other respect the flowers and the fruit quite agree with *Hesperis*, on which account we are led, for the present, to continue it in that genus.

TAB. LXXV.



Hesperis Menziesii.

1. Sisymbrium *brachycarpum. Richards.—Hook. Fl. Bor. Am.* 1. *p.* 62.—S. canescens. δ. *Torr. et Gr. Fl.* 1. *p.* 92.

Hab. Snake Country. Confluence of Reed's River with the Snake River. (*Tolmie.*)

2. S. *curvisiliqua. Hook. Fl. Bor. Am.* 1. *p.* 61.—Nasturtium. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 73.

Hab. Snake Country. (*Tolmie.*)

1. Erysimum *asperum. DC.—Hook. Fl. Bor. Am.* 1. *p.* 64. *t.* 22. *Torr. et Gr. Fl.* 1. *p.* 95.—E. elatum. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 95.

Hab. Snake Country; about the American falls on the Snake River, and at Green River. (*Tolmie.*)

2. E.? *glaberrimum;* foliis radicalibus spathulatis caulinis pinnatifidis supremis linearibus integerrimis.

Hab. Snake Country. Confluence of Reed's River with the Snake River. (*Tolmie.*)—Root perennial, bearing at the summit several erect stems, scarcely a foot high, and their stems are simple. Lower leaves spathulate, entire, soon withering; the principal ones of the stem pinnatifid; the uppermost ones linear, entire: all glabrous, as is every part of the plant. Corymbs of several rather small flowers. Calyx glabrous, of four membranaceous ovato-lanceolate leaves. Petals yellow, but not very bright. Petals obovate, clawed, nearly twice as long as the calyx. Young siliquæ narrow, linear.

1. Lepidium *corymbosum;* glabrum, ramis corymbosis, foliis pinnatifidis inferioribus bipinnatifidis, floribus dense corymbosis, petalis 4, siliculis apteris (parvis) orbiculari-ovatis obsolete emarginatis, stylo exserto.

Hab. Snake Country. American falls of Snake River. (*Tolmie.*)—A very distinct species. Root annual. Whole plant glabrous. Stem erect, rigid, a span to a foot high, bearing, especially in the upper half, several erecto-patent branches, the lower ones the largest, so that all the specimens have a very corymbose appearance, and each branch bears several corymbs of largish white flowers. Leaves 1-2 inches long, pinnatifid; the segments oblong, those of the lower leaves again pinnatifid. Corymbs very dense, and the fructified racemes are very short. Siliculæ small, quite glabrous, broadly ovate, approaching to orbicular, wingless, scarcely notched, and with a rather considerably exserted style.

2. L. *latipes;* humifusum cæspitosum, foliis bipinnatifidis, floribus densissimis, pedicellis latissimis planis, siliculis ellipticis reticulatis hirsutis antice bialatis alis rectis longitudine siliculorum, stigmate sessili. *Hook. Ic. Pl. t.* 41. *Torr. et Gr. Fl.* 1. *p.* 116.

This is a remarkable plant, of a singularly compact mode of growth; the branches stout, downy, humifuse; the leaves many of them 3-4 inches long, glabrous, or only here and there ciliated, bipinnatifid; the segments linear. Corymbs of exceedingly numerous, very closely placed, small flowers, succeeded by broad crowded racemes of fruit. Petals small, ciliated. Pedicels broad and quite flat, downy. Siliculæ large for the size of the plant, elliptical, compressed, reticulated, more or less clothed with white hairs: the margin of the dissepiment broad; the apex on each side the minute sessile stigma extends into two acuminated wings, nearly equal in length with the pouch.

3. L. *oxycarpum;* subpubescens, caulibus procumbentibus gracilibus, foliis linearibus integris vel pinnatifidis, fructus racemis laxis, pedicellis latis compressis patenti-reflexis,

siliculis glaberrimis orbicularibus compressis reticulatis emarginato-bilobis lobis subdivaricatis acutis, stigmate sessili.—*Torr. et Gr. Fl.* 1. *p.* 116.

A much branched and spreading annual, with long slender racemes of fruit, and recurved compressed pedicels. The pouch is very similar in form to that of *Lepidium bipinnatifidum*, but broader at the base, and with the lobes longer and slightly diverging. The leaves and general aspect of the plant are very different in the two.

4. L. *leiocarpum ;* glabriusculum, caulibus procumbentibus, foliis pinnatifidis, fructus racemis laxis, pedicellis latis planis patenti-reflexis, siliculis glaberrimis nitidis orbicularibus compresso-planis marginibus subincurvis apice emarginatis, stigmate sessili.

Habit of the preceding, but less slender. The leaves are more pinnatifid ; the pedicels broader and flatter ; the siliculæ rather larger, very glossy, destitute of reticulation ; the margin a little curved upwards ; the apex with only a minute notch.

1. Thysanocarpus *elegans* (*Fisch. et Mey.*) ; calyce petalis vix duplo breviori, siliculis orbiculari-ovalibus membranaceo-alatis alis foraminibus plurimis pertusis apice emarginatis, stylo exserto sinus duplo superante.—α. siliculis glabris.—T. elegans. *Fisch. et Mey. in Ind. Sem.? Hort. Petrop. p.* 51. *Torr. et Gr. Fl.* 1. *p.* 118.—β. siliculæ disco tomentoso.

A most beautiful species, very different from the original *T. curvipes.* Our specimens have all a woolly disk to the siliculæ, in which particular alone it differs from *T. elegans*, Fischer et Meyer, and is probably the same as the same authors notice from California, as discovered by M. Deppe, differing only in the longer style. The present variety is 1½ to 2 feet high, lower leaves slightly pinnatifid and hairy, upper ones glabrous, entire, sagittate at the base, racemes of fruit 8-10 inches long. Siliculæ of a most elegant structure, margined with a broad somewhat crenated wing, in which is a range of rather large oblong perforations all round the woolly disk.

2. T. *curvipes. Hook. Fl. Bor. Am. v.* 1. *p.* 69. *t.* 18. *f.* A. *Torr. et Gr. Fl.* 1. *p.* 118. —β. siliculæ disco pubescente.

The var. β. alone is in this collection, differing in no respect from the original *T. curvipes*, except in the downy fruit.

3. T. *pulchellus. Fisch. et Mey. Ind. Sem. Hort. Petrop.* 1835. *p.* 50. *Torr. et Gr. Fl.* 1. *p.* 118.—α. silicula nuda.—β. siliculæ disco tomentoso.

These two states of the plant are mixed together, as if gathered in the same locality, and I see no reason to consider them other than varieties of the same species. The species is chiefly distinguished from *T. curvipes* by the much longer style, and the scarcely notched apex of the silicula.

4. T. *pusillus ;* pubescenti-hirtus ramosus, siliculis orbicularibus vix alatis pilis patentibus uncinatis utrinque tectis, floribus apetalis. *Hook. Ic. Pl.* 1. *t.* 43. *Torr. et Gr. Fl.* 1. *p.* 119.

A very minute plant. The flowering specimens probably do not equal an inch in height, but the inflorescence runs out into slender racemes, 3 or 4 inches long, bearing siliculæ to the very base. These are scarcely so large as flax-seed, orbicular, compressed, and not distinctly winged, but clothed all over with spreading uncinate white hairs.

ORD. VI. CAPPARIDEÆ. *Juss.*

1. Cleome *lutea. Hook. Fl. Bor. Am.* 1. *p.* 70. *t.* 25. *Torr. et Gr. Fl.* 1. *p.* 122.

HAB. Snake Country. Between Burnt River and Malheur River. (*Tolmie.*)

ORD. VII. VIOLARIEÆ. *DC.*

1. V. *Muhlenbergiana. Ging.—Hook. Fl. Bor. Am.* 1. *p.* 78. *Torr. et Gr. Fl. p.* 140.

HAB. Snake Country; at Hans Forks.

2. V. *præmorsa. Douglas in Bot. Reg. t.* 1254. *Hook. Fl. Bor. Am.* 1. *p.* 80. *Torr. et Gr. Fl.* 1. *p.* 14.

3. V. *pedunculata;* caule brevi, stigmate capitato utrinque piloso, foliis cordato-rhombeis basi subabrupte in petiolum longum attenuatis subpuberulis obtuse crenatis, stipulis parvis lanceolatis integris, pedunculis elongatis, sepalis lanceolatis acuminatis, petalis ovato-lanceolatis calcare brevissimo. *Torr. et Gr. Fl.* 1. *p.* 141.

With the exception of the different shape of the leaves, this seems scarcely different from *V. Nuttallii*, Ph. and Hook. Fl. Bor. Am. 1. p. 79. t. 26; and we had marked it as a broad leaved var. of that species, till we saw our friends Messrs Torrey and Gray had described it as a new species; whose opinion, in this case, we are willing to adopt. The flowers are large, handsome, golden colour.

4. V. *chrysantha;* subacaulis, stigmate capitato utrinque subpiloso, foliis bipinnatifidis junioribus hirsutis laciniis linearibus integris v. subpinnatifidis, stipulis ovato-lanceolatis membranaceis integris, pedunculo elongato, sepalis lanceolatis ciliatis, petalis obovatis subuniformibus, calcare brevissimo. *Hook. Ic. Pl. t.* 49. *Torr. et Gr. Fl.* 1. *p.* 143.

One of the most distinct of all the species of this extensive genus. The root, if it may be so called, seems to be a congeries of subterranean filiform stems, agglutinated together; the portion of the stem above ground being very short. Leaves bi- sometimes even tripinnatifid, very unlike those of any other *Viola.* Flowers large, golden yellow, the two upper petals with a brown cloud on the outside, the lower with a very short spur, and a few dark lines above the base. Anthers slightly combined.

5. V. *ocellata;* glabra, stigmate globoso-clavato, caulibus erectis elongatis gracilibus, foliis longe petiolatis cordato-subacuminatis crenatis, stipulis lanceolatis ciliatis, pedunculis folio brevioribus, sepalis linearibus, petalis obovatis basi attenuatis lateralibus supra basin barbatis, calcare brevissimo.—*Torr. et Gr. Fl.* 1. *p.* 142.

Too near, I am afraid, to *V. Canadensis.* It is, however, a glabrous plant, very slender. The leaves are narrower, the flowers smaller, the upper petals deep purple, the two lateral ones with a purplish spot above the beard, the rest of the flower nearly white.

ORD. VIII. CARYOPHYLLACEÆ. *Juss.*

1. Arenaria *rubra. L.—Hook. Fl. Bor. Am.* 1. *p.* 98.—Spergula rubra. *Torr. et Gr. Fl.* 1. *p.* 175.

2. A. *verna. L.—Hook. Fl. Bor. Am.* 1. *p.* 99. *Torr. et Gr.* 1. *p.* 161.—β. parce pilosa glandulosa, capsula majore.

3. A. *Franklinii. Hook. Fl. Bor. Am.* 1. *p.* 101. *t.* 35. *Torr. et Gr. Fl.* 1. *p.* 178.—β. *minor;* magis cæspitosa.—A. Hookeri. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 178?

Hab. β. Snake Country; at Snake Fort. (*Tolmie.*)—This var. is probably the *A. Hookeri* of Nutt. l. c., which he found in the Rocky Mountains, lat. 40°, and of which he remarks that it is "allied to *A. Franklinii,* but with shorter leaves, bracteas, and sepals."

1. Stellaria *stricta. Rich.—Hook. Fl. Bor. Am.* 1. *p.* 96.—S. longipes. β. *Torr. et Gr.* 1. *p.* 185.

Hab. Snake Country. Thomas' Fork. (*Tolmie.*)

1. Silene *Gallica. L.*—S. quinquevulnera. *Torr. et Gr. Fl.* 1. *p.* 191? (at least as to the Californian specimens from Mr Douglas, there alluded to.)

1. Lychnis *pulchra. Schlecht. in Linnæa, v.* 5. *p.* 234.—β. foliis linearibus.

These specimens quite agree with the Mexican *L. pulchra,* above quoted, except in the narrower leaves. The petals are deep red.

Ord. IX. MALVACEÆ. *Juss.*

1. Malva *rotundifolia. L.*—M. obtusa. *Torr. et Gr. Fl.* 1. *p.* 225.

We do not see how this in any way differs from the *M. rotundifolia* of Europe, and it is in all probability an introduced plant.

2. M. *malachroides;* herbacea erecta ubique piloso-hispida, foliis longe petiolatis membranaceis profunde cordatis subprofunde 5-7-lobis acutis grosse subinciso-dentatis, stipulis subulatis, pedunculo terminali foliis breviore, floribus spicatis, involucri bracteis 3 subulatis calyceque hispidissimis, petalis bifidis.

We possess no fruit of this plant, which seems very different from anything hitherto described.

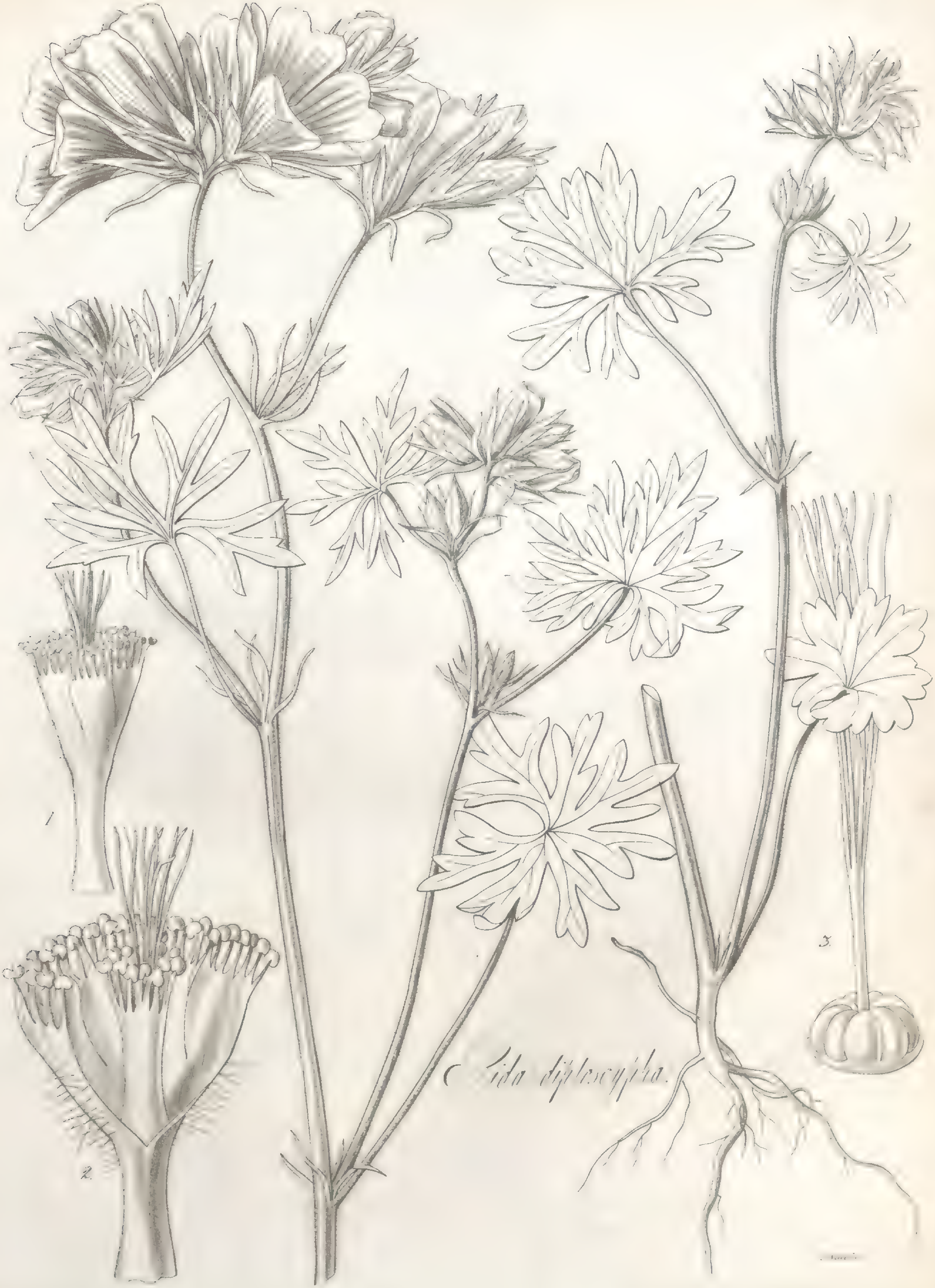
1. Sida *malvæflora. DC.—Lindl. Bot. Reg. t.* 1036. *Hook. Fl. Bor. Am.* 1. *p.* 108. *Torr. et Gr. Fl.* 1. *p.* 234.

2. S. *diploscypha;* annua herbacea, caule petiolis bracteisque patenti-pilosis, foliis digitatim 7-partitis, laciniis bi-trifidis oblongis obtusis, stipulis bracteisque lineari-setaceis, floribus aggregatis, calycis 5-partiti laciniis acuminatissimis. (Tab. LXXVI.)—*Torr. et Gr. Fl.* 1. *p.* 234.

Column of stamens, as Messrs Torrey and Gray have described it, double; outer one hispid externally lobed below the middle, the anthers in a single row, about five at the summit of each of the lobes; inner one irregularly lobed, rather shorter than the outer, and connate with it above the base. Ovaries 9, one inserted into a shallow 9-toothed cap.

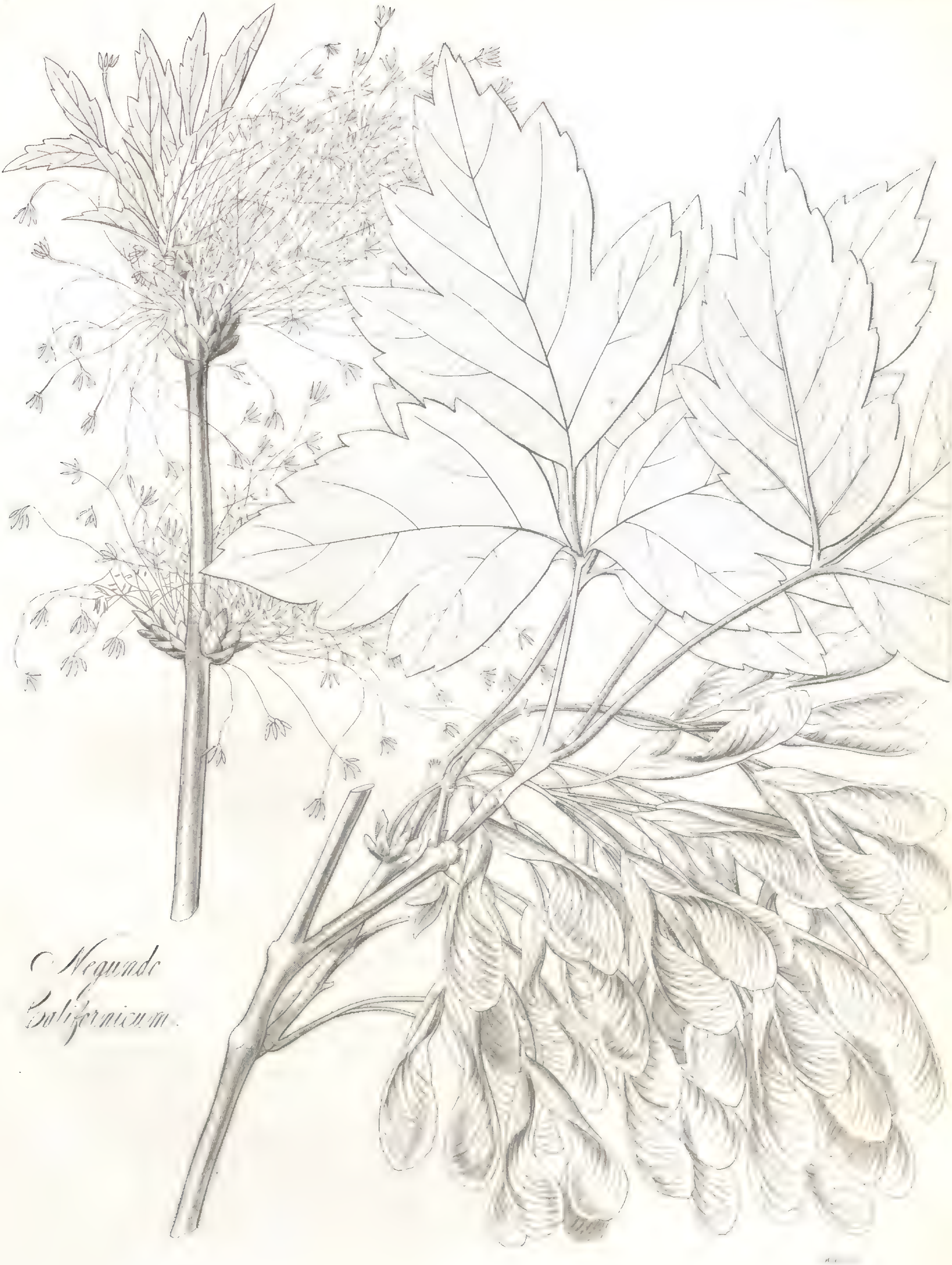
Tab. LXXVI. *Fig.* 1. Column of stamens; *fig.* 2. The same, the outer column laid open; *fig.* 3. Pistil.

3. S. *grossulariæfolia;* incana stellatim pubescens, foliis cordatis 3-5-partitis, laciniis cuneatis 3-5-fidis, pedunculis axillaribus 3-5-floris, calyce 5-fido ad basin foliolis 2-3 subulatis deciduis.



Sida diploscypha.

TAB. LXXVII.



Negundo Californicum.

Hab. Bamcoch River. Snake Country. (*Tolmie.*)—Flowers large, red, resembling those of *S. coccinea*, and of the following species, to which it is nearly allied, though quite different in the foliage.

4. S. *dissecta;* incana stellatim pubescens, foliis profunde 5-partitis, laciniis linearibus 3-multifidis, pedunculis axillaribus 1-3-floris, calyce 5-fido.—*Torr. et Gr. Fl.* 1. *p.* 235.

Bear River, Snake Country. (*Tolmie.*)—Messrs Torrey and Gray observe that this comes very near to *S. coccinea*, but it is smaller, the leaves much more divided, and the segments narrower, and I believe really distinct.

Ord. X. ACERINEÆ. *Juss.*

1. Negundo *Californicum;* foliis 3-foliolatis molliter pubescenti-hirsutis subtus præcipue, foliolis ovato-acuminatis trilobis lobis ovatis acutis inciso-serratis petiolis velutinis, fructu oblongo pubescente ala oblique obovata. (Tab. LXXVII.)—*Torr. et Gr. Fl.* 1. *p.* 250.

This is a totally different species both from *N. fraxinifolium*, Nutt. (*N. aceroides*, Moench, and Torr. et Gray,) and from *N. Mexicanum*,* of which there are fine specimens in *Andrieux's Pl. Mexic. Exsicc. p.* 489.

Tab. LXXVII. Negundo Californicum.

1. Acer *macrophyllum. Ph.—Hook. Fl. Bor. Am.* 1. *p.* 112. *t.* 38.

Ord. XI. HIPPOCASTANEÆ. *DC.*

1. Æsculus *Californica. Nutt. in Torr. et Gr. Fl.* 1. *p.* 251.—Calothyrsus Californica. *Spach, in Ann. des Sc. Nat. 2d Ser. v.* 2. *p.* 62.

Ord. XII. AMPELIDEÆ. *Rich.*

1. Vitis *Caribæa?* ramis foliisque junioribus pedunculisque tomentosis, foliis subrotundo-cordatis 3-vel obscure 5-lobis acutis grosse serratis subcoriaceis sinu valde profundo supra glabris subtus cinereo-tomentosis.—*De Cand. Prod.* 1. *p.* 634?—V. Indica. *Sw.?—H. B. K. Nov. Gen. Am.* 5. *p.* 227.

Fruit the size of a currant.

Ord. XIII. GERANIACEÆ. *Juss.*

1. Erodium *macrophyllum;* pubescenti-pilosum, foliis longissime petiolatis cordatis breviter 5-7-lobis crenato-serratis, pedunculis longitudine foliorum umbellatis calycibusque glanduloso-pilosis, umbellis 3-5-floris, sepalis ellipticis mucronato-acuminatis margine membranaceis, coccis oblongis basi attenuatis apice truncatis sericeo-villosis.

This is a true *Erodium*, having the five sterile stamens in the flower, and the awns of the fruit spirally twisted, and bearded internally with red hairs. Leaves 2-2½ inches broad.

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* And which may be thus characterized:—*N. Mexicanum;* glaberrimum, foliis trifoliolatis foliolis cordato-ovatis anguste acuminatis nitidis æqualiter serratis lateralibus ad marginem inferiorem bilobis intermedio trilobis, fructibus ovato-oblongis ala oblique oblonga.—Hab. In montibus circa Toluccam. *Andrieux.*

ORD. XIV. LIMNANTHACEÆ. *Br.*

1. Limnanthes *Douglasii. Br.—Lindl. Bot. Reg. t.* 1673. *Hook. Bot. Mag. t.* 3554. *Torr. et Gr. Fl.* 1. *p.* 209.

ORD. XV. OXALIDEÆ. *De Cand.*

1. O. *Oregana;* acaulis, rhizomate elongato ramoso hic illic squamis dentato, foliis longe petiolatis foliolis (magnis) late obcordatis ciliatis subtus petiolis scapoque unifloro supra medium bibracteolato calycibusque pilosis pilis ubique ferrugineis, petalis obovatis, staminibus calycem subæquantibus.—*Nutt. in Torr. et Gr. Fl.* 1. *p.* 211.

Mr Nuttall is quite correct in making this western *Oxalis* different from the *O. Acetosella* of Europe and Eastern America. It is much larger, the young leaves and buds and the petioles, peduncles, bracteas and calyx, and underside of the leaves and their margins, are clothed with ferruginous hairs. The description in *Hook. Fl. Bor. Am.*, of *O. Acetosella*, belongs exclusively to that plant: the North-western specimens, and the remarks on them, belong to *O. Oregana.* It was first found by Mr Menzies in California.

ORD. XVI. RHAMNEÆ.

1. Rhamnus *oleifolius. Hook. Fl. Bor. Am.* 1. *p.* 123. *t.* 44.

1. Ceanothus *incanus;* ramis brevibus crassis teretibus siccitate subpruinosis (vix pubescentibus), foliis petiolatis lato elliptico-ovatis 3-costatis coriaceis glanduloso-serratis obtusis supra velutinis subtus pubescenti-canis, glomerulis multifloris densis sessilibus folio brevioribus.—*Torr. et Gr. Fl.* 1. *p.* 266.—*β. minor;* foliis angustioribus supra nudis.

Ovary with three distinct lobes rising above the disk. Flowers white.

2. C. *thyrsiflorus. Esch.—Hook. Fl. Bor. Am.* 1. *p.* 125. *Hook. et Arn. in Bot. of Beech. p.* 136. *Torr. et Gr. Fl.* 1. *p.* 266.

3. C. *divaricatus;* ramis teretibus siccitate pruinosis, ramulis sæpe spinescentibus (spinis obtusis) patentibus, foliis elliptico-oblongis subcoriaceis tricostatis minute glanduloso-serratis supra glabris lucidis subtus pallidioribus nervis præcipue subpubescentibus, paniculis elongatis densifloris, floribus glomeratis (cæruleis).—*Nutt. in Torr. et Gr. Fl.* 1. *p.* 267.

In its flowers this bears a great resemblance to the preceding; but the leaves are very different, much less strongly nerved, and the prominent angles of the stem are wholly wanting. The ovary, too, is smooth, and does not present three projecting lobes as does that of *C. thyrsiflorus.*

4. C. *serediatus;* ramis teretibus resinoso-verrucosis, ramulis patentibus subsericeis, foliis elliptico-ovatis obtusis subcoriaceis minute glanduloso-dentatis 3-costatis supra glabris subtus incano-pubescentibus ad nervos sericeis, glomerulis multifloris densis folio parum longioribus, (floribus cæruleis).

The short dense glomerules of flowers resemble those of the first species; but these flowers are blue. The germen, too, is without lobes. The branches are copiously studded with resinous warts; in the more exposed parts of the stem, frequently forming large patches.

5. C. *integerrimus;* glaber, ramis subangulatis parce resinoso-viscosis, foliis 3-costatis submembranaceis oblongo-ellipticis obtusis integerrimis subtus pallidioribus, paniculis elongatis multifloris, floribus glomeratis albis.

A very distinct species, with quite entire leaves, and very long narrow panicles of white flowers. Except on the very youngest leaves or branches, there is no appearance of pubescence on the plant. Ovary without projecting lobes.

6. C. *cuneatus;* ramulis teretibus pubescentibus, foliis penninerviis oppositis fasciculatis coriaceis oblongo-cuneiformibus integerrimis obtusis v. emarginatis supra glabris subtus in areolis cano-pubescentibus, glomerulis densifloris brevibus subumbellatis, (floribus albis) ovario grosse 3-tuberculato.—*α. rufescens;* ramulis pubescenti-ferrugineis.—Rhamnus? cuneatus. *Hook. Fl. Bor. Am.* 1. *p.* 124.—Ceanothus macrocarpus. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 267.—*β. cinerascens;* ramulis cinereo-puberulis.—C. cuneatus. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 267.

We agree with Messrs Torrey and Gray in thinking that *C. macrocarpus*, Nutt. (which is certainly our original *Rhamnus ? cuneatus*), and the *C. cuneatus*, Nutt., constitute in reality but one species, differing as they do almost exclusively in the colour of the pubescence. Both have the same balsamic odour. The authors just mentioned are likewise disposed to consider the *C. verrucosus* of Nutt., in Torr. et Gr. l. c., as another var. of *C. cuneatus.*

7. C. *rigidus;* ramulis teretibus pubescenti-tomentosis, foliis penninerviis oppositis orbiculari-cuneatis retusis coriaceis grosse spinoso-dentatis supra glabris subtus in areolis subincanis, glomerulis multifloris brevibus subumbellatis (floribus cæruleis).—*Nutt. in Torr. et Gr. Fl.* 1. *p.* 268.

8. C. *dentatus;* fulvo-sericeo-pilosus, ramis teretibus, foliis alternis penninerviis fasciculatis coriaceis oblongo-cuneiformibus marginibus revolutis grosse glanduloso-dentatis supra sparse subtus dense pubescenti-sericeis, pedunculis elongatis, paniculis oblongis densifloris (floribus albis).—*Torr. et Gr. Fl.* 1. *p.* 268.

9. C. *papillosus;* ramis teretibus hirto-tomentosis hic illic resinoso-verrucosis, foliis densis oblongis coriaceis alternis penninerviis junioribus stipulaceis supra margineque glanduloso-papillosis pubescentibus subtus tomentosis, pedunculis subaggregatis ad apices ramulorum, floribus (cæruleis) capitatis deciduo-bracteatis, ovario lobulis tribus elongatis erectis.—*Torr. et Gr. Fl.* 1. *p.* 268. *Hook. Ic. Pl.* 3. *t.* 272.

This species has a fragrant and somewhat resinous smell.

ORD. XVII. LEGUMINOSÆ. *Juss.*

1. Thermopsis *macrophylla;* caule angulato, petiolis calycibus ovariisque hirsutissimis, foliis trifoliolatis, foliolis obovato-ellipticis utrinque acutis supra glabris subtus pubescentibus, stipulis maximis (biuncialibus) ovatis acutis.

Leaflets 4 inches long. Calyx angled, deeply 2-lipped; upper lip ovate bidentate, lower 3-partite, the segments lanceolato-subulate. Stamens 10, free. Ovary linear, densely sericeo-villous, on a short glabrous stipes. A very fine and distinct species, with apparently white, but probably, when recent, yellowish flowers. Leaves much longer than in any hitherto known species.

1. Medicago *maculata. Sibth.*

Probably imported.

1. Trifolium *Macræi. Hook. et Arn. in Bot. Misc.* 3. *p.* 179.—T. albo-purpureum. *Torr. et Gr. Fl.* 1. *p.* 313.

These specimens exactly agree with those of Chili. The flowers are small, a little protruded beyond the silky calyces, dark purple, pale at the tips. It is a small slender spreading plant. Stems a span long. Stipules often ovate.

2. T. *dichotomum;* erectum dichotomum patenti-pilosum, foliis anguste obovatis denticulatis, stipulis folioli dimidium æquantibus lato-ovatis acuminatis, capitulis lato-ovatis obtusis longe pedunculatis, calycibus sessilibus dense piloso-sericeis dentibus longis setaceis rectis subæqualibus corollæ longitudine.

In many particulars this agrees with the preceding species, but it is, in every respect, a much larger and stouter plant, apparently growing quite erect. The stipules are ½ to ¾ of an inch in length, the capitula more than an inch. The calyx is quite as long, or rather longer than the corollas, which latter appear to be of a purple colour.

3. T. *gracilentum;* annuum glabrum, caulibus erectis gracilibus, foliolis obcordato-cuneatis serratis serraturis aristatis, stipulis e lata basi lanceolato-acuminatis integerrimis, pedunculis elongatis, floribus umbellatis demum deflexis, calycis glaberrimi striati dentibus subulatis tubo longioribus corolla brevioribus inferiore reliquis sub ⅓ breviore, legumine dispermo stipitato.—*Torr. et Gr. Fl.* 1. *p.* 316.

A slender, erect, annual plant, glabrous in every part. Corollas purple, apparently persistent, and becoming scariose.

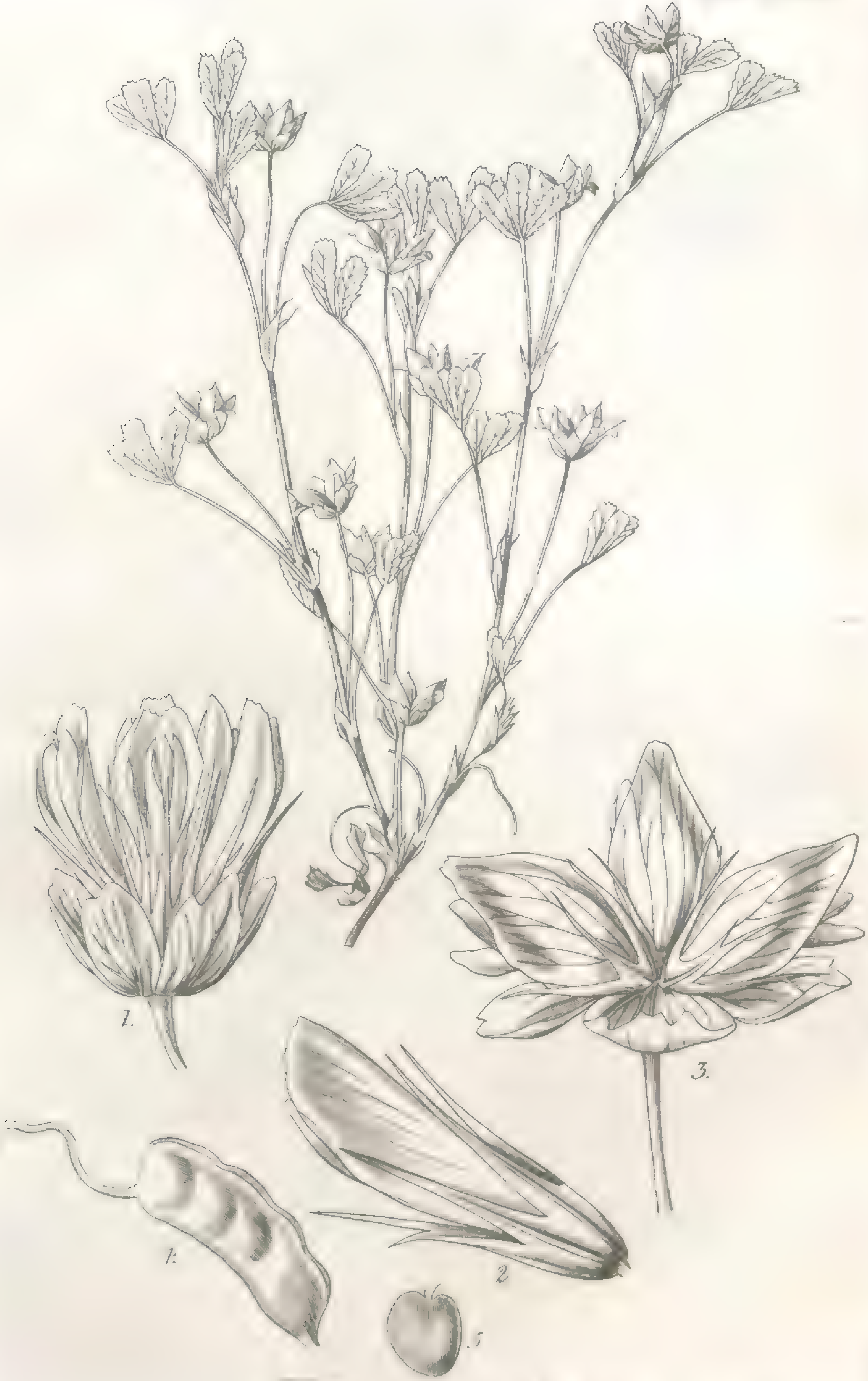
4. T. (Involucraria) *microcephalum. Ph.—Hook. Fl. Bor. Am.* 1. *p.* 133. *Torr. et Gr. Fl.* 1. *p.* 317.

5. T. (Involucraria) *amplectens;* parvum erectum glabrum, foliolis cuneatis dentatis, stipulis ovatis membranaceis cuspidatis, pedunculis axillaribus folium æquantibus, capitulo 3-5-floro, involucro profunde 3-5-fido membranaceo lobis rotundatis membranaceis subincisis, calycis rigidi tubo brevissimo dentibus subulato-setaceis corollam floriferam parum brevioribus nunc bifidis, vexillo demum maximo inflato membranaceo, legumine oblongo transversim rugoso 4-spermo vexilli longitudine. (Tab. LXXVIII.—) *Torr. et Gr. Fl.* 1. *p.* 319.

In size and general aspect this *Trefoil* accords with *T. depauperatum,* but *there* the involucre is obsolete and truncate, here (comparatively) large and deeply lobed.

Tab. LXXVIII. *Fig.* 1. Capitulum of flowers; *fig.* 2. Single flower; *fig.* 3. Capitulum of three fruits, with the persistent corollas:—*magnified.*

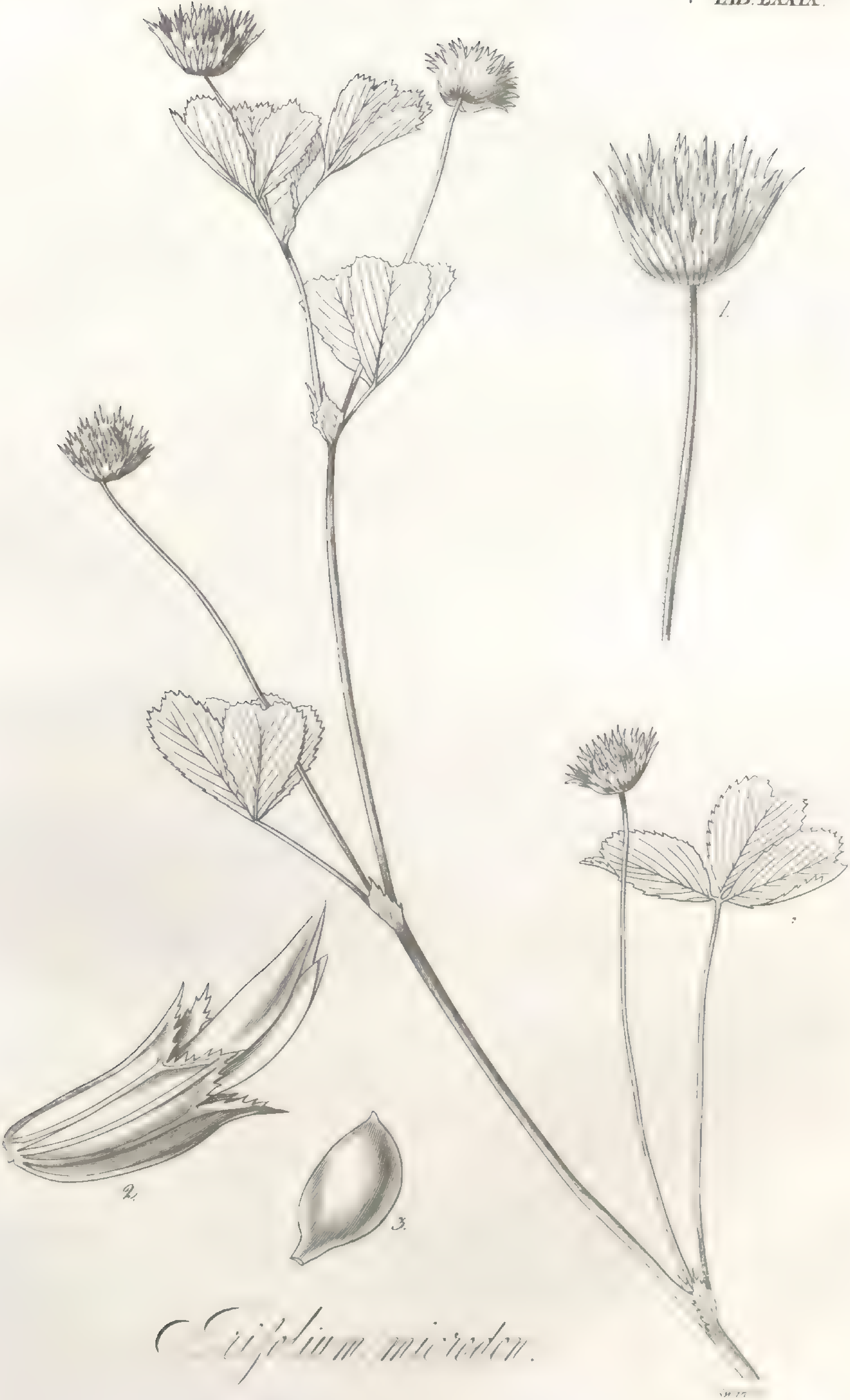
6. T. (Involucraria) *microdon;* glabrum subdecumbens ramosum, foliolis obcordatis acute serratis, stipulis ovatis acuminatis integerrimis, involucris hemisphæricis multifidis nervosis capitulo denso parum brevioribus laciniis 3-5-fidis spinuloso-serratis, calycis



Trifolium amplectens.

Swan sc.

TAB. LXXIX.



Trifolium microdon.

dentibus brevissimis triangulari-ovatis acutis ciliato-serrulatis, legumine oblique obovato 1-spermo. (TAB. LXXIX.)—*Hook. et Arn. in Bot. Misc.* 3. *p.* 180.

This differs in no respect from the Chilian plant we described in our *Contributions to the Botany of South America.*

TAB. LXXIX. *Fig.* 1. Capitulum and involucre; *fig.* 2. Single flower; *fig.* 3. Legumen:—*magnified.*

7. T. (Involucraria) *melananthum;* procumbens elongatum glabrum, foliolis obovato-cuneatis (stipulisque ovato-acuminatis rigidis) spinuloso-dentatis, pedunculis axillaribus folio longioribus, involucris plano-hæmisphæricis reticulatis incisis spinulosis capitulo denso brevioribus, calycis rigidi striati campanulati dentibus lato-subulatis spinescentibus tubo longioribus corolla acuminata brevioribus integerrimis demum reflexis, legumine lato-elliptico dispermo membranaceo.—T. variegatum. β. *Torr. et Gr. Fl.* 1. *p.* 317?

This comes very near *T. Chilense,* Hook. et Arn. supra, p. 16; but the stems are much taller, bearing more copious heads of flowers, and the teeth of the calyx are quite entire.

8. T. (Involucraria) *obtusiflorum;* pubescens, caule elongato, foliolis obovato-lanceolatis spinuloso-denticulatis, stipulis lanceolatis profunde inciso-spinosis, pedunculis axillaribus folio duplo longioribus, involucris planiusculis parvis reticulatis inciso-spinosis capitulo laxiusculo majusculo triplo brevioribus, calycis dentibus subulato-spinosis integerrimis longitudine tubi carina obtusa apice subdentata multo brevioribus, ovario oblique obovato subdispermo. *Hook. Ic. Pl. v.* 3. *t.* 281.

About a foot or more high, downy. Flowers large in proportion to the involucre. Corollas long, pale-coloured, with a dark spot on the keel: the vexillum very blunt, and at the apex slightly toothed or jagged. Alæ very narrow, almost as long as the vexillum.

9. T. (Involucraria) *involucratum. Willd.* (*non Kunth*). *Smith in Rees' Cycl.—Hook. Fl. Bor. Am.* 1. *p.* 133.—T. tridentatum. *Lindl. in Bot. Reg. sub fol.* 1070.—T. aciculare. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 319.

This is found in Chili as well as in California and N. W. America.—It varies considerably in size, from six inches to a foot or more in height; with its leaflets more or less narrow, sometimes obtuse, sometimes quite acute. Segments of the calyx broad, with two (lateral) very short teeth and one long spinous one.

10. T. (Involucraria) *fimbriatum.*—T. heterodon. *Torr. et Gr. Fl.* 1. *p.* 318.—α. foliolis oblongo-ovalibus acutis, laciniis calycinis corolla duplo brevioribus omnino integerrimis.—T. fimbriatum. *Lindl. Bot. Reg. t.* 1070.—β. foliolis obovatis retusis.—γ. foliolis obovatis obtusis, calycis lacinia inferiore profunde trifida.—δ. foliolis oblongis obtusiusculis, calycis lacinia inferiore profunde trifida, reliquis bifidis vel integris, omnibus carinam æquantibus.

This is a very variable species, or there are three distinct species in our collections. The original plant of Lindley has short teeth to the calyx, and those quite entire; and to this *T. spinulosum,* Dougl. in Fl. Bor. Am. 1. p. 133, must be referred. Our β., gathered in California by Mr Menzies, has obcordate leaves, but it does not in other respects differ from Dr Lindley's plant. Our two other vars., as we here consider them, are in the present Californian collection, var. γ. having the lower segment of the calyx always deeply 3-fid, while our var. γ. has larger paler-coloured flowers, longer teeth to the calyx, and those teeth, in the greater number, bi- or trifid.

11. T. (Involucraria) *furcatum. Lindl. Bot. Reg. t.* 1883 (*ann.* 1836). *Torr. et Gr. Fl.* 1. *p.* 319.—T. physopetalum. *Fisch. et Mey. Animadv. Bot. p.* 18 (*ann.* 1837).

Among the largest and handsomest of all the *Trefoils*, and at the same time the most singular. In some of our specimens the stipules are an inch long, and nearly ¾ of an inch broad, and the fructified capitula are more than two inches in diameter.

1. Hosackia *crassifolia. Benth. in Linn. Trans.* 17. *p.* 365.

2. H. *stipularis. Benth. l. c. p.* 365.

3. H. *gracilis. Benth. l. c. p.* 365.

4. H. *grandiflora. Benth. l. c. p.* 366.

5. H. *tomentosa. Benth. l. c. p.* 366.

6. H. *cytisoides. Benth. l. c. p.* 366.

First found by Mr Menzies in California.

7. H. *juncea. Benth. l. c. p.* 366.

8. H. *sericea. Benth. l. c. p.* 367.

I possess specimens of this plant (but without flowers) gathered also at the great falls of the Columbia by Mr Douglas.

1. Lotus (§ Microlotus. *DC. Benth.*) *subpinnatus. Lag.—Hook. et Arn. supra, p.* 17. *t.* 8. *Benth. l. c. p.* 367.

2. L. *micranthus. Benth. l. c. p.* 367.—Hosackia parviflora. *Benth. in Bot. Reg. sub. fol.* 1257. *Hook. Fl. Bor. Am.* 1. *p.* 134.

1. Psoralea *strobilina ;* caule (herbaceo) petiolis stipulis pedunculis bracteisque hirsutis glandulisque pedicellatis fuscis scabris, foliolis (3) rhombeo-rotundatis ovalibusve supra glabris nigro-punctatis subtus præcipue, stipulis (majusculis) lato-ovatis cuspidato-acutis membranaceis, racemis maximis, bracteis lato-ovatis acuminatis flores superantibus, calycis lacinia inferiore corollam æquante subtus pubescenti-canis. (Tab. LXXX.)—P. macrostachya, β.? *Torr. et Gray, Fl.* 1. *p.* 304.—β. stipulis bracteisque multo minoribus.—P. macrostachya. *Lindl. Bot. Reg.*

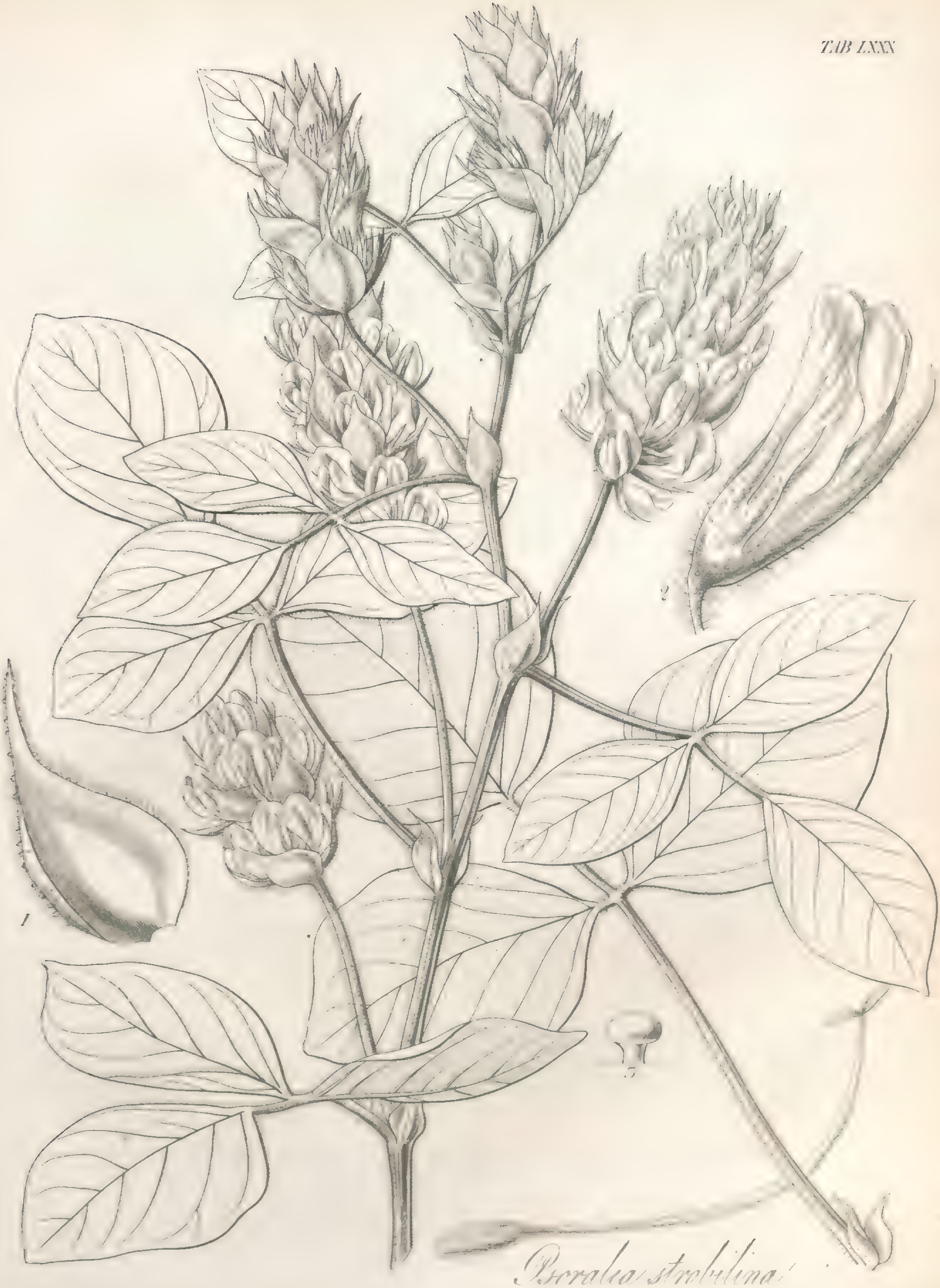
A tall growing plant, with striated stems, and leaflets 2-3 inches long. Flowers purplish, subtended by very large glandular bracteas which almost conceal them.

Tab. LXXX. *Fig.* 1. Bractea ; *fig.* 2. Flower ; *fig.* 3. Pedicellated gland ; *fig.* 4. Pistil.

2. P. *macrostachya ;* pubescens, caule (herbaceo) glandulis elevatis sparsis scabro, foliolis (3) ovali-lanceolatis utrinque punctatis basi apiceque acutis, stipulis (parvis) lanceolatis, spicis elongatis longe pedunculatis compactis nigro-villosis, bracteis rhombeis longe cuspidatis flore brevioribus, calycis (eglandulosi) lacinia inferiore corollam æquante. *De Cand. Prod.* 2. *p.* 220. (*non Lindl.*) *Torr. et Gr. Fl.* 1. *p.* 304.

Allied to *P. pubescens*, which we have from Peru, but that is much more hairy, the leaflets are broader at the base, the calyx rough with glands, and the corollas smaller.

TAB LXXX



Psoralea strobilina

3. P. *orbicularis;* repens, (foliolis corollisque exceptis) glandulis elevatis scabra, caule gracili, petiolis pedunculisque longissimis (spithamæis ad pedalem), foliolis (3) rotundato-cuneatis obtusissimis pubescentibus nigro-punctatis, stipulis parvis ovatis membranaceis, spicis brevibus nigro-villosis, bracteis calycisque lacinia inferiore corollam æquantibus.—*Lindl. Bot. Reg. t.* 1971.

Flowers rather large, purple. Leaflets two inches and more long.

4. P. *physodes;* erecta glabriuscula herbacea, foliolis (3) late rhombeo-ovatis punctatis, stipulis parvis lanceolatis membranaceis, racemis laxis pedunculatis folio longioribus, calycibus demum inflatis glandulosis corolla dimidio brevioribus dentibus brevibus subæquantibus.—*Douglas.—Hook. Fl. Bor. Am.* 1. *p.* 136. *Torr. et Gr. Fl.* 1. *p.* 304.

Our former specimens from the Columbia, with only withered flowers, led us into an error with respect to the relative length of the calyx and corolla. The corolla is in reality twice the length of the calyx. After flowering, the latter becomes longer and inflated, and quite encloses the 1-seeded legume.

1. Petalostemon *macrostachyum. Torr. in Ann. Lyc. N. Y.* 2. *p.* 176. *Torr. et Gr. Fl.* 1. *p.* 309.—P. ornatum. *Dougl.—Hook. Fl. Bor. Am.* 1. *p.* 138.

HAB. Between Bruneau and Onyhee Rivers, Snake Country. (*Tolmie.*)

1. Amorpha *Californica;* fruticosa pubescens, ramulis petiolisque glandulis rigidis acutis aculeatis, foliolis ellipticis obtusis subtus nigro-punctatis, calycibus striatis pubescenti-canis 5-fidis glandulosis laciniis lanceolatis glandula terminatis, stylo exserto recurvo acuto germineque globoso-villosis.—*Nutt. in Torr. et Gr. Fl.* 1. *p.* 306.

A very distinct species, most allied perhaps to *A. fruticosa.*

1. Phaca *macrodon;* erecta dense pubescenti-canescens demum glabriuscula, caule angulato, foliolis 11-13-jugis oblongo-lanceolatis obtusis apiculatis brevissime petiolulatis, stipulis parvis lanceolato-acuminatis persistentibus, pedunculis folio subbrevioribus, racemis elongatis multifloris, bracteis subulatis membranaceis longitudine pedicellorum, calycis tubo ovali, dentibus filiformi-subulatis flexuosis tubum æquantibus corolla parum brevioribus.

A tall growing species. Leaves six inches long, pubescenti-villous and hoary, in the older leaves as well as on the pale reddish-brown angular stems, at length less hairy and almost glabrous. Flowers apparently yellow, at first patent, then reflexed; the corolla a good deal curved upwards. Calyx with singularly long flexuose, narrow, subulate teeth. Ovary linear, compressed, silky.

2. P. *leucophylla;* erecta canescenti-sericea, caule obscure striato, foliolis 14-18-jugis oblongo-lanceolatis obtusis brevissime petiolatis, stipulis parvis subulatis membranaceis, pedunculis folio duplo longioribus, racemis oblongis densifloris subspicatis, bracteis subulatis pedicellum brevissimum æquantibus, calycis ovalis dentibus lato-subulatis brevibus rectis subæqualibus.—Astragalus leucophyllus. *Torr. et Gr. Fl.* 1. *p.* 336.

Habit of the preceding, and of several acknowledged *Phacæ*, on which account, in the absence of fruit, I refer it to the present genus. Flowers large, probably cream-coloured when fresh, erecto-patent.

3. P. *Douglasii;* decumbens elongata glabra, caule striato, foliolis fere semper oppositis 12-14-jugis oblongis obtusis subapiculatis subsessilibus, pari inferiore remoto, stipulis ovatis acutis membranaceis, pedunculis folio longioribus, racemo plurifloro laxo ovali-oblongo, bracteis pedicellum brevissimum superantibus, calycis villosuli dentibus lato-subulatis brevibus rectis subæqualibus albo-ciliatis, legumine (unciali) ovali-oblongo acuto inflato. *Torr. et Gr. Fl.* 1. *p.* 346.

Apparently a straggling plant, 1½ or 2 feet long, glabrous in every part, except the calyx and the ovary, though the hairs almost disappear on the fully formed legumes.

4. P. *densiflora;* decumbens subincano-pubescens, caule striato, foliolis 16-18-jugis densis obovato-cuneatis retusis, stipulis connatis ovatis acuminatis membranaceis, pedunculis folio longioribus, racemis ovatis demum reflexis densifloris, bracteis parvis subulatis pedicellum æquantibus, calycis tubo brevi dentibus lato-subulatis brevibus rectis subæqualibus, legumine maximo subbiunciali elliptico acuto inflato.—*Sm. in Rees' Cycl.*—*De Cand. Prod.* 2. *p.* 274. *Hook. et Arn. supra, p.* 138. *Hook. Ic. Pl.* 3. *t.* 282. *Torr. et Gr. Fl.* 1. *p.* 344.—P. canescens. *Nutt. in Torr. et Gr.* 1. *p.* 344.

A straggling plant, slightly hoary with down. The leaves and leaflets crowded.

5. P. *astragalina. De Cand.*—β. foliolis floribusque minoribus.

We have compared what we have here considered a slight variety of *P. astragalina,* with the common alpine and arctic state of the plant, and can find no difference, except in the smaller and slenderer flowers and leaflets. California, however, must undoubtedly be considered a very southern station for it. It is scarcely distinguishable from *P. debilis,* Nutt., but that is a Rocky Mountain and not a coast plant.

1. Astragalus *Hypoglottis. L.*—A. goniatus. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 330.

Hab. Pine Creek, Snake Country. (*Tolmie.*)—Mr Nuttall's *A. goniatus,* from the Rocky Mountains, N. California, is precisely the same.

2. A. *glareosus. Dougl. in Hook. Fl. Bor. Am.* 1. *p.* 152. *Torr. et Gr. Fl.* 1. *p.* 333. —A. argophyllus. *Nutt. in Torr. et Gr. Fl.* 1. *p.* 331 (*excl. the synonym*).

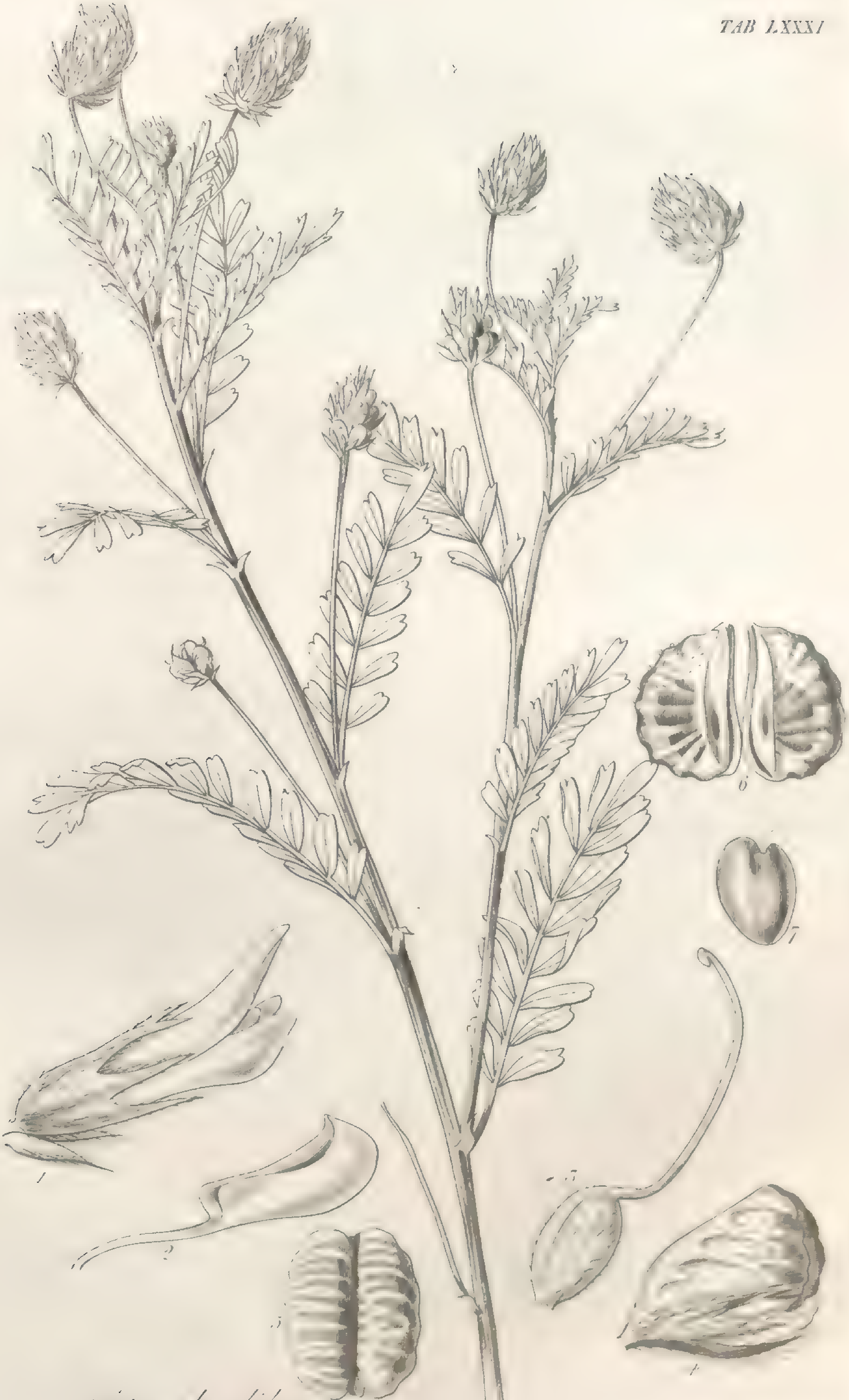
Hab. About Snake Fort, Snake Country. (*Tolmie.*)—Mr Nuttall had considered his *A. argophyllus* as probably the same as the *A. melanocarpus* of Dr Richardson; but on a comparison of specimens, we find that not to be the case. The *argophyllus* is identical with the *A. glareosus* of Douglas.

3. A. *didymocarpus;* suberectus pilosiusculus, foliolis sub-8-jugis oblongo-subobovatis emarginatis, stipulis parvis ovatis membranaceis ad basin petioli subconnatis, pedunculis folio longioribus, floribus capitatis parvis, calycis hirsuti dentibus subulatis rectis longitudine tubi, leguminibus coriaceis didymis rugoso-venosis lobis monospermis. (Tab. LXXXI.)

This is a very remarkable species, especially in the structure of its legumes. These are obovate, laterally compressed, strongly nerved and wrinkled, with the introflexed margins (from beneath) reaching nearly to the back, so as to divide them into two compressed one-seeded lobes.

Tab. LXXXI. *Fig.* 1. Flower and bractea; *fig.* 2. Carina; *fig.* 3. Ovary; *fig.* 4. Fruit, with the persistent calyx; *fig.* 5. View of the underside of the fruit; *fig.* 6. The lobes of the fruit forced back, when they easily separate into two 1-seeded portions; *fig.* 7. Seed:—*magnified.*

TAB LXXXI



Astragalus [illegible]

1. Lathyrus *palustris.* *L.*—var. ε. (*Torr. et Gr. Fl.* 1. *p.* 276); minute pubescens, calycis dentibus lateralibus triangulari-oblongis obtusis tubo multo brevioribus, foliolis 4-5-jugis rigidis, caule subangulato.

I quite agree with Messrs Torrey and Gray in referring this to *L. palustris* of Linnæus, which is a very variable species.

LUPINUS. *L.*

The *Lupines* of California, sent by Mr Douglas to the Horticultural Society, having been fully and carefully described by Professor Agardh, Jun., in his valuable "*Synopsis Generis Lupini,*" we shall content ourselves by referring to that work for their characters and synonyms.

1. Lupinus *Menziesii. Ag. Syn. Lup. p.* 2.

2. L. *microcarpus. Sims, Bot. Mag. t.* 2413. *Hook. et Arn. supra, p.* 21. *Ag. l. c. p.* 2.

A native of Chili as well as California.

3. L. *densiflorus. Benth. Hort. Trans. N. S.* 1. *p.* 409. *Lindl. Bot. Reg. t.* 1689. *Ag. l. c. p.* 3.

4. L. *hirsutissimus. Benth. Hort. Trans. N. S.* 1. *p.* 409. *Ag. l. c. p.* 4.

5. L. *concinnus. Ag. l. c. p.* 6. *tab.* 1. *f.* 1.

6. L. *nanus. Dougl. mst.—Benth. in Hort. Trans. N. S.* 1. *p.* 409. *t.* 14. *f.* 2. *Ag. l. c. p.* 11.

7. L. *leptophyllus. Benth. in Hort. Trans. N. S.* 1. *p.* 409. *Lindl. Bot. Reg. t.* 1670. *Ag. l. c. p.* 12.

8. L. *micranthus. Dougl. in Bot. Reg. t.* 1251. *Hook. Fl. Bor. Am.* 1. *p.* 162. *Ag. l. c. p.* 14.

9. L. *bicolor. Lindl. Bot. Reg. t.* 1109. *Hook. Fl. Bor. Am.* 1. *p.* 162. *Ag. l. c. p.* 14.

10. L. *gracilis. Ag. l. c. p.* 15. *tab.* 1. *f.* 2.

11. L. *pusillus. Ph.—Hook. Fl. Bor. Am.* 1. *p.* 15. *Ag. l. c. p.* 15.

12. L. *grandifolius. Lindl. in Ag. l. c. p.* 18.

13. L. *latifolius. Ag. l. c. p.* 18.

14. L. *cytisoides. Ag. l. c. p.* 18.

15. L. *affinis. Ag. l. c. p.* 20.—L. Nootkensis. *β. Hook. Fl. Bor. Am.* 1. *p.* 163? (*Ag.*) —*Sims, Bot. Mag. t.* 2136. (*Ag.*)

16. L. *Nootkatensis. Donn.—Ph.—Sims, Bot. Mag. t.* 1311. *Hook. Fl. Bor. Am.* 1. *p.* 163. *Ag. l. c. p.* 21.

17. L. *versicolor. Lindl. Bot. Reg. t.* 1979.

18. L. *rivularis. Lindl. Bot. Reg. t.* 1595.

19. L. *sericeus. Ph.—Hook. Fl. Bor. Am.* 1. *p.* 164. *Hook. et Arn. supra, p.* 138. *Ag. l. c. p.* 30.

20. L. *plumosus. Dougl. in Bot. Reg. t.* 1217. *Hook. Fl. Bor. Am.* 1. *p.* 165. *Ag. l. c. p.* 32.

21. L. *Chamissonis. Esch. Pl. Nov. Calif. in Act. Petrop.* 10. *p.* 288. *Ag. l. c. p.* 32.

22. L. *albifrons. Benth. in Hort. Trans. N. S.* 1. 416. *Lindl. Bot. Reg. t.* 1642. *Ag. l. c. p.* 33.

23. L. *Douglasii. Ag. l. c. p.* 34.

To the above species, fully described by Agardh, we have the two following to add :—

24. L. *truncatus;* appresse pubescenti-pilosus demum glaber, foliolis 5-7 linearibus basi angustatis apice bi-tridentatis, stipulis minutis linearibus brevibus, racemis elongatis, floribus alternis, bracteis pedicello brevioribus persistentibus, calycis bracteolati labio superiore bipartito inferiore integro (minute tridentato, *Nutt.*), ovario lineari-oblongo hirsutissimo.—*Nutt. mst.—Torr. et Gr. Fl. ined.*

Nearly allied to *L. linifolius*, Roth ; and an imperfect specimen, in Dr Lindley's collection from Douglas (California), is doubtfully referred to that species by Agardh. But it is truly distinct, in the more truncate leaflets and the much smaller stipules and bracteas, which latter are also persistent. Mr Nuttall found it at San Diego, N. California, and his name we adopt. Flowers deeply tinged with purple.

25. L. *parviflorus;* elatus erectus ramosus pubescenti-hirsutus demum glaber, foliolis 5-7 obovato-lanceolatis, stipulis minutis subulatis persistentibus, racemis elongatis, floribus (parvis cæruleis) subverticillatis, bracteis subulatis pedicellum æquantibus deciduis, calycis sericei labiis subæqualibus superiore bidentato inferiore integro, (legumine hirsuto subtrispermo).—*Nutt. mst.—Torr. et Gr. Fl. ined.*

HAB. Between Henry and Smith's Rivers, Snake Country. (*Tolmie.*)—An exceedingly well-marked species, 1½ to 2 feet high, subglaucous. Leaflets broader upwards, acute or generally very obtuse. Racemes long, slender, of numerous small bluish flowers.

ORD. XVIII. ROSACEÆ. *Juss.*

NUTTALLIA. *Torr. et Gr. Fl. Am. ined.*

(Not of *De Candolle*[*] or *Dick.*)

DIŒCIA. *Calyx* campanulatus, 5-fidus, liber, in fœmin. ad basin transversim secedens. *Petala* 5, oblongo-ovalia, breviter unguiculata.—FL. MASC. *Stamina* biserialia ; *superiora* subdecem ad marginem calycis inserta ; *inferiora* 5, versus medium tubi. *Filamenta* brevia, incurva (staminum inferiorum arcte deflexa). *Antheræ* subrotundæ. Rudimentum pistilli 0.—FL. FŒM. *Stamina* ut in masc., sed abortiva. *Pistilla* 5, erecta. *Germen* oblique obovatum, glaberrimum. *Stylus* paulo infra apicem ad marginem interiorem situs, filiformis, basi articulatus, demum deciduus. *Stigma* dilatatum. *Ovula* 2, collateralia, pendentia, ad

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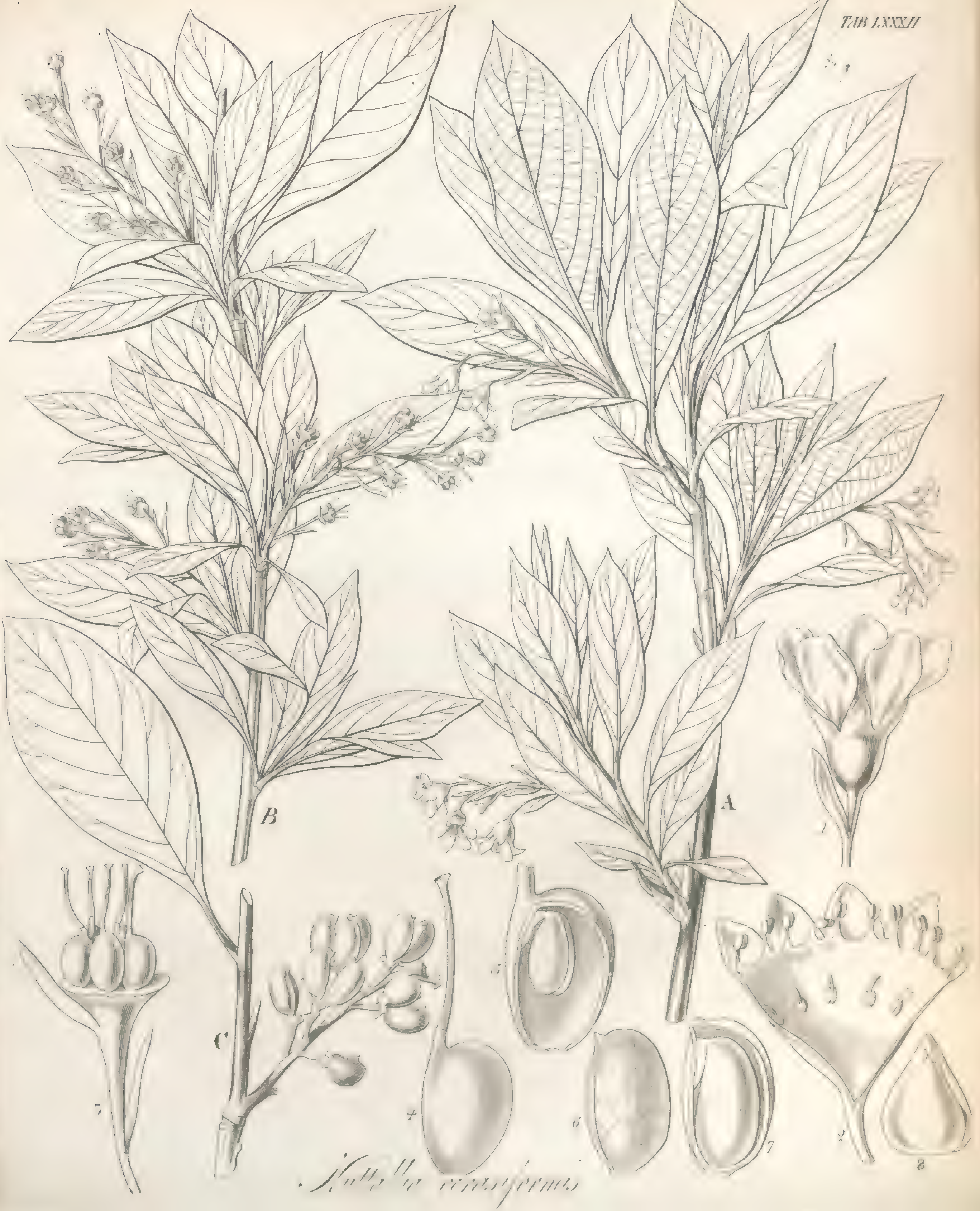
[*] The *Nuttallia* of De Candolle, founded upon the *Ilex Canadensis*, Mx., is the *Nemopanthes*, Raf., and the *Nuttallia* of Dick is now divided between *Sida* and *Malva.*

TAB LXXXII



Nuttallia cerasiformis

axin interiorem loculi affixa. *Fructus* compositus, e *drupis* (abortione) 3, 2 vel 1, subsiccis, oblique obovatis, subincurvis. *Putamen* chartaceum. *Semen* 1, pendens, obovatum. *Albumen* nullum. *Cotyledones* late obovatæ, compressæ. *Radicula* supera.

1. Nuttallia *cerasiformis. Torr. et Gr. Fl. of N. Am. ined.*—(Tab. LXXXII.)

The greater part of the accompanying drawing of this entirely new genus, was made from imperfect specimens gathered on the Columbia by Mr Douglas and Dr Scouler in 1825. It has since been sent me, in various states, from the "margins of pine woods," in the same country, by Dr Gairdner and Mr Tolmie, and from these specimens the drawing was completed. It now appears in Mr Douglas' Californian collection; and I have lately received the same plant from Mr Nuttall, gathered by that gentleman on the Columbia, and bearing the *ms.* name of *Nuttallia cerasiformis* of Torrey and Gray, a name which I have the greatest pleasure in thus perpetuating. Nor could the name be attached to any plant with greater propriety than to one inhabiting a district of country where that gentleman has so eminently signalized himself by his recent laborious researches and discoveries. We here subjoin Mr Nuttall's description, drawn up on the spot, as copied from his *ms.* by my friend Dr Gray, and which shows how well he distinguished all its remarkable features.

"A small forest-tree, about the size of *Amelanchier Botryapium*, exhaling a faint scent of *Bitter Almonds* with a smooth brown bark on the branches, and alternate, oblong, entire, thin leaves. Racemes filiform, connected at the base with a branchlet, both included in the common bud. Leaves alternate, entire, cuneate-oblong, apiculated, and attenuated below into a short petiole, more or less pubescent or glabrous beneath; the same bud producing both leaf and raceme. Raceme pendulous, and, with the white flowers and unguiculate oblong petals, resembling *Amelanchier Botryapium.* Bracts membranous, narrow, and acuminated. Male calyx campanulate, half-way 5-cleft. Segments lanceolate. Stamens about 12-15, inserted on and below the margin of the calyx. Female calyx dividing circularly towards the base; the base remaining beneath the fruit. Stamens minute and rudimental, fewer. Germs 5, roundish, 2-3 usually soon abortive; styles filiform, deciduous; stigma small, 2-lobed. Germens for some time gibbous, the mature drupe at length nearly straight, the internal indehiscent suture scarcely visible; pulp a mere succulent blackish-brown skin, furnished with a bloom. Nut 1-seeded; no perisperm or albumen. Embryo straight, the radicle inserted towards the summit of the fruit. The fruit is greedily eaten by robins and other baccivorous birds, though almost bitter to the taste, and with the heavy odour of the bitter almond."

Tab. LXXXII. Nuttallia cerasiformis.—A. Branch of a male plant in flower.—B. Branch of a female plant, from which the calyx and petals have fallen, and exhibiting the fertilized ovaries.—C. Branch with ripe fruit:—*nat. size.*—*Fig.* 1. Flower; *fig.* 2. Calyx of a male flower laid open, showing the situation of the stamens; *fig.* 3. Female flower, after the calyx has fallen away; *fig.* 4. Pistillum; *fig.* 5. The same, laid open; *fig.* 6. A single fruit; *fig.* 7. The same, laid open; *fig.* 8. Embryo:—*magnified.*

1. Cercocarpus *parvifolia* (*Nutt.*); foliis late obovatis dentatis (junioribus præcipue) subtus pubescenti-hirsutis, floribus geminatis recurvis, fructus cauda longissima. *Nutt. in Herb. Hook.—Torr. et Gr. Fl. ined.—Hook. Ic. Pl. t.* 323.

This species comes so very near the description of the Mexican *C. fothergilloides,* H. B. K. Nov. Gen. Am. t. 559, that until we examined specimens lately sent by Mr Hartweg, we hesitated whether it should not be referred to that plant. All the specimens, however, from Mr Douglas, as well as one collected by Mr Nuttall on the Platte River, have the leaves smaller, and more downy beneath, than Humboldt's species, the flowers not clustered, but geminate and recurved, the fruit larger, and the cauda much longer and more plumose. A second species, found by Mr Nuttall (*C. betuloides,* Nutt. ms. in Herb. Hook., and Hook. Ic. Pl. t. 322), is also quite distinct from the Mexican plant; while a third species, *C. ledifolia* (Nutt. ms. in Herb. nostr., and Hook. Ic. Pl. t. 324), is extremely different from all the rest.

With regard to the genus itself, it must rank very close to *Purshia,* from which it scarcely differs, except in the absence of petals, in the deciduous calyx, and in the much larger and plumose style. In our present species, the calyx is sometimes carried up by the elongated persistent style, on which it remains some way below the apex.

1. Spiræa (Physocarpus) *opulifolia. Linn.—Hook. Fl. Bor. Am.* 1. *p.* 171.—β. *Hook. l. c.*—S. capitata. *Pursh.*—S. ribifolia. *Nutt. ms. in Herb. Hook.*

Mr Nuttall's specimen is from the Columbia; his *S. pauciflora*, from the same country, seems scarcely different.

2. S. (Spiraria) *ariæfolia. Sm.—Hook. Fl. Bor. Am.* 1. *p.* 173.

1. Adenostoma *fasciculata. Hook. et Arn. supra, p.* 139. *t.* 30.—A. fasciculata et brevifolia. ***Nutt. ms.* (*in Herb. Hook.*)**

We can perceive no difference between Mr Nuttall's two supposed species. His *A. brevifolia* is but a more stunted plant, with shorter leaves.

1. Rubus *macropetalus* (*Dougl.*). *Hook. Fl. Bor. Am.* 1. *p.* 178. *t.* 59.

1. Potentilla *glandulosa. Lindl. Bot. Reg. t.* 1583.—β. petalis calyce longioribus. ***Lindl. Bot. Reg. t.* 1973.**

From this we can scarcely distinguish the *P. Oregana*, Nutt. ms. in Herb. nostr., nor even his *P. fissa*, ms.

2. **P. *anserina.* L.**

1. Horkelia *fusca* (*Lindl.*); glanduloso-pubescens, foliis radicalibus 6-7-jugis laciniis cuneato-oblongis pinnatifidis vel palmatifidis incisis, paniculis corymbosis capitatis, petalis calycem superantibus, calycis laciniis accessoriis integerrimis duplo angustioribus, stipulis palmatifido-incisis, bracteis palmatis capitulis brevioribus.—*Lindl. Bot. Reg. t.* 1997.

Mr Lindley states this to have come from California; but our specimens were collected by Douglas in **1835, in the interior, and probably in Columbia.**

2. H. *cuneata* (*Lindl.*); villoso-pubescens, foliis radicalibus pinnatis 10-12-jugis laciniis subrotundo-cuneatis incisis, paniculis corymbosis capitatis, petalis calycem superantibus, calycis laciniis omnibus integerrimis consimilibus oblongo-lanceolatis, stipulis subintegris ovato-lanceolatis, bracteis tripartitis capitulis villosis brevioribus.—*Lindl. Bot. Reg. sub folio* 1997.—H. Douglasiana. *Nutt. ms. in Herb. Hook.*

H. parviflora, Nutt. ms., differs by being more villous, by having fewer leaflets to the radical leaves, and the accessary calycine segments twice as narrow as the others. It is from the mountains of California.

3. H. *capitata* (*Lindl.*); caule basi glabriusculo apice glanduloso-pubescente, foliis radicalibus pinnatis 5-6-jugis laciniis inferioribus subrotundis incisis basi cuneatis, petalis calycem superantibus, calycis laciniis accessoriis integerrimis multo angustioribus, stipulis integris tripartitisve, capitulis solitariis bractea pinnatifida brevioribus.—*Lindl. Bot. Reg.* ***sub folio* 1997.**

Lindley mentions that this is a Californian plant; but our specimens were collected by Douglas on the **Cascade Mountains of the Columbia.**

4. H. *congesta* (*Hook.*); basi hirsutissima apice glandulosa, foliis radicalibus pinnatis sub-7-jugis laciniis angustis cuneatis apice præcipue incisis, paniculis corymbosis capitatis multifloris glandulosis pubescentibus, petalis calycem paullo superantibus, calycis laciniis accessoriis integerrimis multo angustioribus, stipulis palmatifido-incisis, bracteis 3-5-partitis capitulis brevioribus.—*Hook. Bot. Mag. t.* 2880. *Flor. Bor. Am.* 1. *p.* 196.—H. hirsuta. *Lindl. in Bot. Reg. sub folio* 1997.—H. pilosa. *Nutt. ms. in Herb. Hook.*

Dr Lindley states that this also was found in California, but our specimens from Douglas were collected, in 1835, in the interior of the Columbia, and those from Nuttall are from the Wallamet plains. These differ in no respect from the plant long ago figured in the *Bot. Mag.*, and are distinguished from all the preceding by the lower part of the stem and petioles of the leaves being very hirsute, with long, patent, harsh hairs. In habit, and particularly in the shape of the segments of the radical leaves, this approaches most to *H. fusca.*

5. H. *grandis*; pubescenti-villosa, foliis caulinis inferioribus 4-5-jugis laciniis subalternis cuneato-subrotundis 3-5-partitis, lobis cuneato-obovatis incisis terminali alte trifidis, floribus solitariis longe pedunculatis omnibus e dichotomus calycis villosi laciniis accessoriis ovato-oblongis subtrifidis quam interiores lanceolatas acutas majoribus petala fere duplo superantibus, stipulis pinnatifidis.

Our specimens are from California. When we compare this with *H. Californica*, Cham. et Schlecht. in Linnæa, 2. p. 27, we find so many points of resemblance, that we are almost inclined to suppose them the same, and that the present plant may not be completely developed, and therefore not exhibiting the ample panicle described by these authors. The points of resemblance are—1. *H. Californica*, like ours, does not seem to have the flowers capitate, as in all the other species, but has them disposed in "panicula multiflora ampla, basi pluries dichotoma cum alari, apice racemosa." 2. The outer segments of the calyx are broader and less sharp than the inner, and are usually furnished with a small tooth or incision on one or both sides. 3. The plant is more villous towards the extremity. 4. The leaves are large, and the leaflets, of a similar shape, are few, and somewhat alternate or pseudo-opposite. 5. The calyx is large, and the petals small.—The chief discrepancy lies in the length of the peduncles; in our plant, those belonging to the lower flowers are upwards of an inch long, whereas, in *H. Californica*, they are said to be "*sesquilineares, inferiores remoti majores.*"

1. Acæna *pinnatifida. Ruiz et Pav. Fl. Per. et Chil.* 1. *t.* 104. *f.* 1.—var. γ. *Hook. et Arn. in Bot. Misc.* 3. *p.* 307.

These specimens of Mr Douglas exactly accord with the var. γ. of our Chilian *A. pinnatifida*, published in the *Bot. Miscellany*; and we now doubt very much if the *A. trifida*, R. et P., be really distinct from it. Our specimens are in very fine condition, but we regret that they do not exhibit the nature of the fruit.

1. Rosa *blanda? Ait.—Hook. Fl. Bor. Am.* 1. *p.* 199?—R. Californicæ var. *Cham. et Schlecht. in Linnæa, v.* 2. *p.* 35?

Of the plant which we here refer doubtfully to *R. blanda*, there is one fine specimen; but that only in fruit. It appears to belong to a tall and stout growing plant, without any glossiness on its purplish stem and foliage, and every where wholly destitute both of aculei and setæ. Leaves closely placed. Leaflets 5-7, oval or obovate, regularly serrated, except at the base, slightly plaited, generally obtuse, glabrous (but not lucid) above, downy, with short soft hairs beneath. Corymb bearing copious flowers. Fruit globose, and, as well as the peduncles, quite smooth and glabrous. Sepals uniform, persistent, spreading, ovato-lanceolate, much acuminate, downy and slightly glandular, white at the margin.

1. Photinia *arbutifolia. Lindl.—Hook. et Arn. supra, p.* 139.

We do not see that *P. nudiflora* of Nuttall's ms. in Herb. Hook. differs in any respect from the present species. This was first discovered by Mr Menzies, during Vancouver's voyage.

1. Cerasus *ilicifolius* (*Nutt. ms.*) *;* foliis coriaceis perennantibus lucidis cordato-ovatis breve petiolatis spinoso-dentatis, racemis densifloris axillaribus terminalibusque folia æquantibus, bracteis pedicello brevioribus. (Tab. LXXXIII.)

This singular species has leaves resembling those of the Holly, equally harsh, rigid, and spinous ; but with the fruit we are unacquainted. The racemes are copious and thickly flowered.

Tab. LXXXIII. Cerasus ilicifolius.—*Fig.* 1. Flower :—*magnified.*

Ord. XIX. CALYCANTHEÆ. *Lindl.*

1. Calycanthus *occidentalis ;* foliis ovato-lanceolatis acuminatis rigidis nitidis utrinque concoloribus scabridis glabris, pedunculis elongatis. (Tab. LXXXIV.)

Branches smooth, of a rusty red colour. Leaves subcordate at the base, about six inches long and two broad, gradually acuminated from below the middle, where they are broadest, to the apex, neither glaucous nor tomentose underneath, even when young. The peduncles are either terminal, or from the forks of the branches, and from two to three inches long when the flower is expanded.

Tab. LXXXIV. Calycanthus occidentalis.—*Fig.* 1. Calyx-tube, showing the stamens, the sepals being removed ; *fig.* 2. Stamen ; *fig.* 3. Calyx-tube laid open, showing the ovaries.

Ord. XX. ONAGRARIEÆ. *Juss.*

1. Zauschneria *Californica. Presl, Rel. Hœnk. p.* 28. *t.* 52. *Hook. et Arn. supra, p.* 140.

Of this there are two forms in the collection : the one has the whole plant, but especially the leaves and flowers, much more densely canescent than the other ; its flowers too are smaller, and of a less lively red colour.

1. Clarkia *pulchella. Pursh.—var.* flore purpureo *et* albo.

Hab. Snake Country, about Snake Fort. *Mr Tolmie.*

2. C. *elegans. Lindl.*—Phæostoma Douglasii. *Spach, Suites à Buffon,* IV. *p.* 393.

This varies much in the hairiness of the ovarium and calyx ; but is quite distinct from the following, with which Spach unites it.

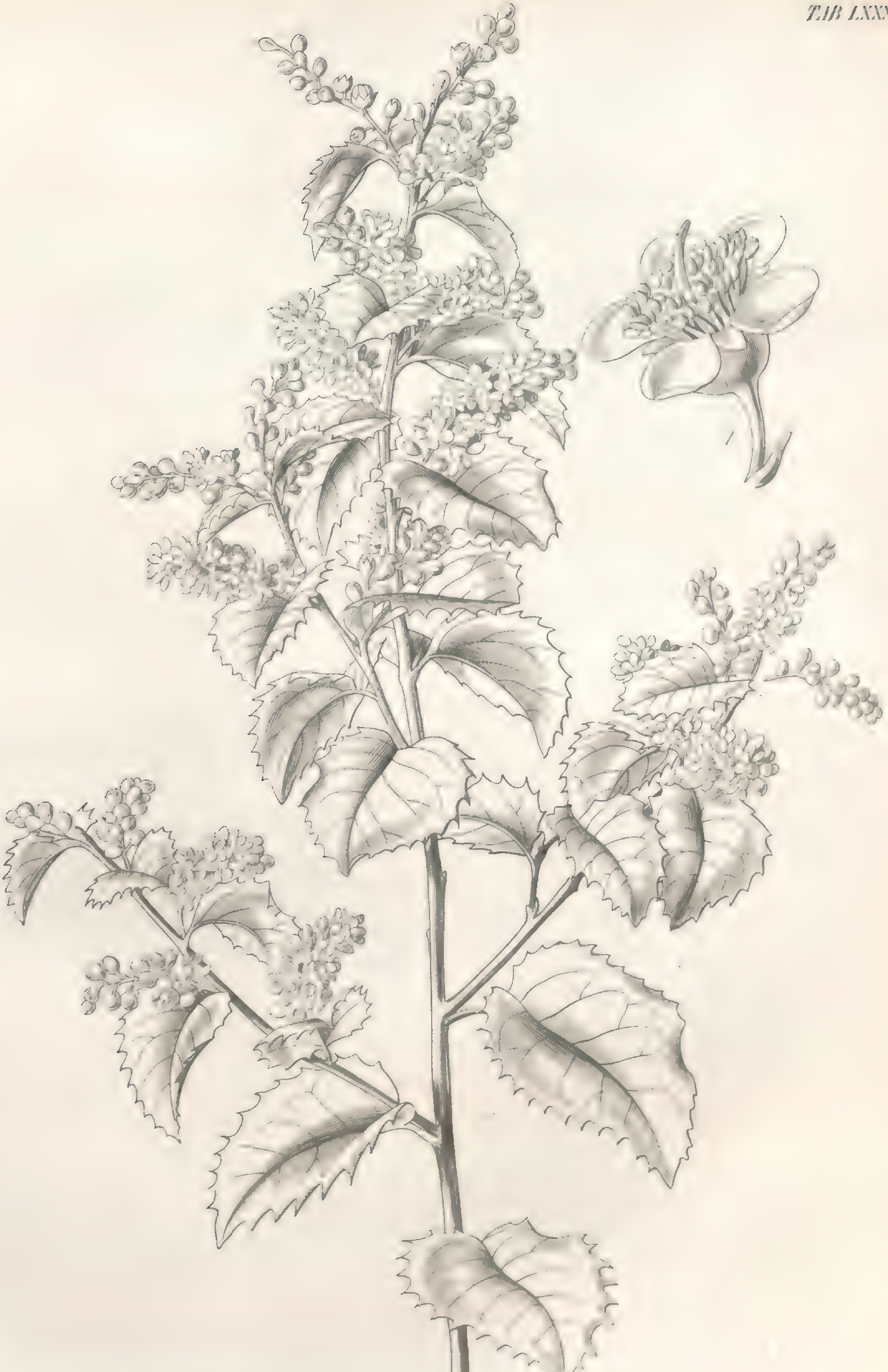
3. C. *rhomboidea. Dougl. in Hook. Fl. Bor. Am.* 1. *p.* 214. *Lindl. Bot. Reg. t.* 1981. —C. gaurioides. *Hortul.—Don in Sweet Br. Fl. Gard. 2d. Ser. t.* 379.

1. Eucharidium *concinnum. Fisch. et Meyer.—Hook. Bot. Mag. t.* 3589.

A solitary specimen of this we found mixed with *Clarkia rhomboidea,* with the foliage of which it agrees pretty well ; but it has very different flowers.

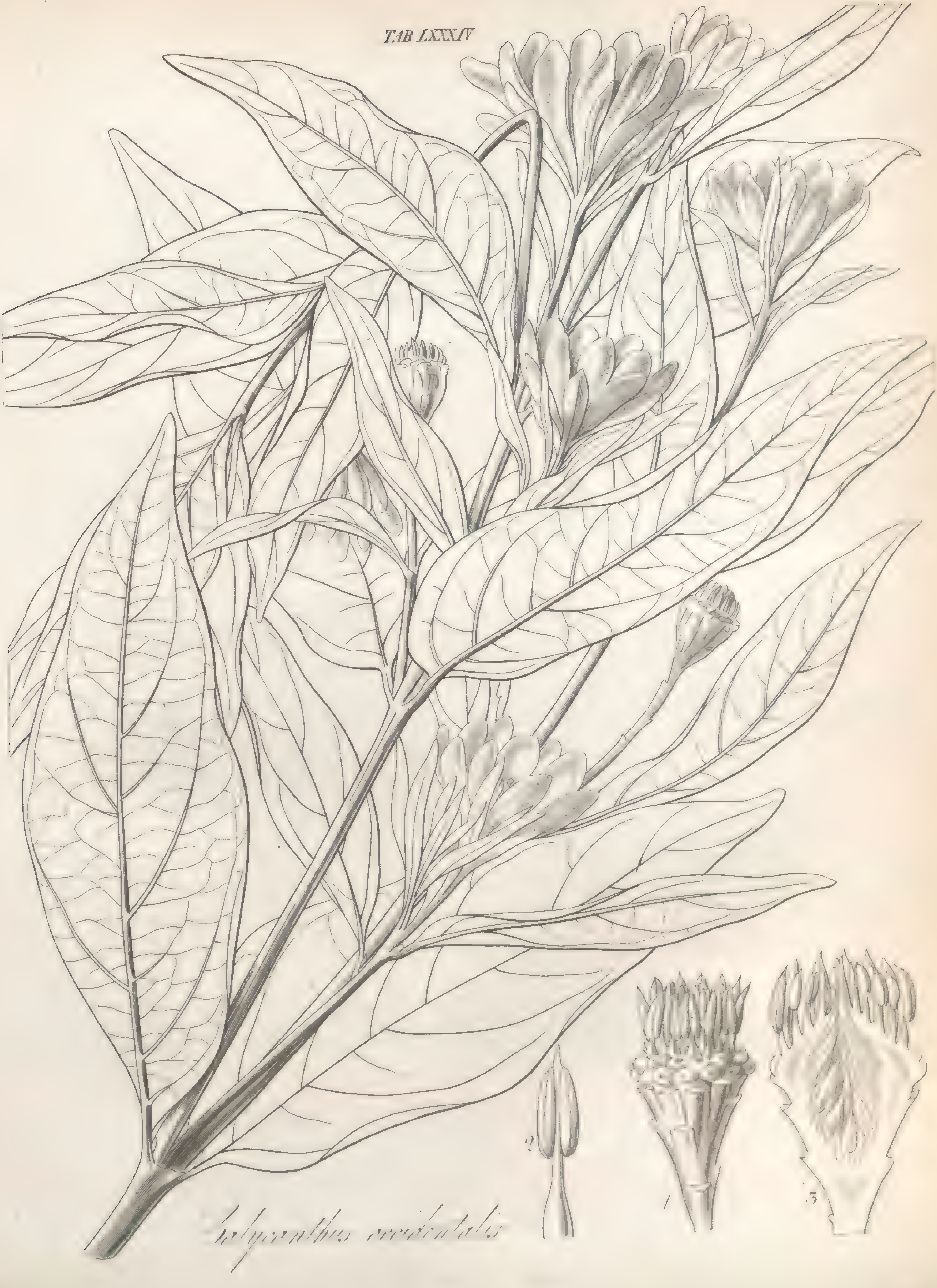
1. Œnothera (Holostigma) *alyssoides ;* humilis multicaulis puberula, foliis inferioribus multo majoribus oblongo-lanceolatis inæqualiter dentatis in petiolum attenuatis caulibus paullo brevioribus, superioribus linearibus, racemis foliosis secundis circinnatis, ovariis

TAB LXXXIII



Cerasus ilicifolia

TAB LXXXIV



Calycanthus occidentalis

tenuissimis sessilibus, petalis filamenta æquantibus stylo brevioribus, capsulis contortuplicatis striatis torulosis.—*Hook. Ic. Pl. vol.* IV. (*ined.*)

This is one of the most remarkable species of the group with which we are acquainted. It has a slender perpendicular branched root, from the summit of which arise several short ascending stems, from three to five inches long, the central one, however, erect, and always apparently floriferous from the base to the summit, the capsule at the base being almost mature, while the upper portion is only in flower. Lower leaves almost equal in length to the stems, and sometimes nearly an inch broad, while the upper ones become bracteæ and are shorter than the flowers. Flowers pale yellow, and retain their colour when dried, as in *Œn. dentata*, Cav., they are copious, racemose and secund, the upper portion of the raceme being recurved until the flowers expand. Petals roundish, obovate, obtuse, and not at all emarginate. The whole habit is that of some species of *Alyssum*, or rather, perhaps, of *Vesicaria*. The capsules are about an inch long, contortuplicate, slender, not half a line thick at the base, slightly attenuated at the extremity, somewhat terete, but striated, torulose by the constrictions between the seeds. To this, *Œ. contorta*, Dougl. in Hook. Fl. Bor. Am., seems allied: but of that plant we possess only a very imperfect specimen, and it seems quite distinct.

Hab. Pine Creek, Snake Country. *Mr Tolmie.*

2. Œ. (Holostigma) *spiralis* (*Hook.*); radice multicipite, caulibus adscendentibus puberulis simplicibus, foliis oblongo-spathulatis (inferioribus longe) in petiolum attenuatis integerrimis canescentibus, floribus axillaribus, petalis stamina stylumque superantibus, ovario piloso e basi crassiore attenuato, fructu acute tetragono acuminato incano spiraliter torto.—*Hook. Flor. Bor. Am.* 1. *p.* 213. *Hook. et Arn. supra*, *p.* 141.

More perfect specimens, from California, than those we formerly possessed, have enabled us to draw up the above character; and we may observe, that the figure of *Œ. cheiranthifolia*, Horn. Bot. Reg. t. 1040, is so extremely similar to the present species, that were it not stated by its original describer to be a native of Chili, we should have considered it the same. The flowers, as in all the following individuals of this subgenus, become green when dry. The stems are from four to eight inches high.

3. Œ. (Holostigma) *micrantha. Horn.*—H. hirta. *Link.*

Œ. heterophylla, Nutt. ms., comes very near this, and is perhaps not really distinct; but in the only specimen we have seen, the capsule is thinly covered with short adpressed hairs, and not rough with spreading hairs, as in Hornemann's plant.

4. Œ. (Holostigma) *graciliflora;* acaulis pilosa, foliis anguste spathulato-linearibus integerrimis vel apice denticulatis, floribus sessilibus, tubo elongato filiformi foliis paullo breviore, petalis late obcordatis.—*Hook. Ic. Pl. vol.* IV. (*ined.*)

This is a small annual plant; the leaves are erect, and from an inch and a half to two inches long, and scarcely a line broad near the apex, while they taper gradually downwards. We have not seen the fruit, but the ovarium is oblong. The flowers are large in proportion to the size of the plant. It is very distinct from any other species with which we are acquainted.

(We may here remark, that *Œn. maritima,* Nutt. ms., from St Diego, in California, is the same with *Œ. viridescens,* Hook. Flor. Bor. Am. 1. p. 214; and *Œn.* (*Gyranthus*) *lithospermoides,* Nutt. ms., is *Œn. Boothii,* Dougl. in Hook. Fl. Bor. Am.; while the *Œ. pygmæa* of the same botanist, l. c., is probably also not distinct from it. Douglas, in the Flor. Bor. Am., says of *Œ. Boothii,* that the style is much exserted; but in his own as well as in Nuttall's specimens, it is scarcely the length of the petals.)

5. Œ. (Godetia) *purpurea. Willd.*—Godetia Willdenowiana. *Spach.*

Our only specimen has the capsule hirsute; the seeds are horizontal, as in *Œ. decumbens* and *Œ. lepida*, from both of which, however, it is readily distinguished, by the greater length of the fruit. The leaves are more pointed than in the cultivated form of the species, and slightly toothed.

6. Œ. (Godetia) *lepida. Lindl. Bot. Reg. t.* 1849.

This nearly agrees with *Œ. procumbens* in the form of the fruit, but it is more hairy; the stem of the present species is erect, and the leaves, especially in the wild specimens, are slightly hairy. They are, however, too closely allied.

7. Œ. (Godetia) *viminea. Dougl.—var.* parviflora?

Of this variety, the only specimen in the collection has flowers as small as those of *Œ. quadrivulnera*, from which it differs by the canescent, not hairy, fruit, and by the infundibuliform tube of the calyx being longer than the ovarium, even longer in that respect than in the usual form of *Œ. viminea*. The calycine segments are as long as the corolla, while in the common state they are only half its length. If new, it may be distinguished from the other species of *Godetia* as follows:—Calycis tubo infundibuliformi ovario longiore, laciniis corollam æquantibus, staminibus corolla duplo brevioribus, stylo ultra tubum exserto, stigmatis lobis brevibus ovalibus, capsula basi crassiore canescente, seminibus adscendentibus.—There is likewise another plant in the collection, so very closely allied in characters to the common appearance of *Œ. viminea*, that we feel unwilling to separate it as a species, without a more numerous set of specimens; in it the branches are acutely angled, and the habit is entirely that of *Œ. purpurea;* it may be recognised by the following marks:—Erecta glabriuscula glaucescens, ramis angulatis apice densifloris, foliis anguste lanceolatis acuminatis denticulatis, calycis tubo infundibuliformi ovarium subæquante, laciniis staminibusque corolla duplo brevioribus, stylo ultra antheras exserto, stigmatis lobis brevibus ovalibus, capsula basi crassiore demum glabra, seminibus adscendentibus.

8. Œ. (Godetia) *tenella. Cav.—var.* β. tenuifolia. *Lindl.?*

We have two forms in the collection, which we can scarcely distinguish from the narrow-leaved variety of Dr Lindley, or *Œ. tenuifolia* of Cavanilles: the one is pale-flowered; the other has deep purple small flowers, exactly resembling our *Œ. tenella*, var. *parviflora*, from Chili. It differs from *Œ. viminea* by the very short calyx-tube, and from *Œ. Romanzovii* (which appears to be occasionally cultivated, under the name of *Œ. tenella*, in our gardens) by the long exserted stigma. Perhaps, however, these characters are variable, and, if so, several of the allied species from the West Coast of America may likewise be referred to *Œ. tenella*.

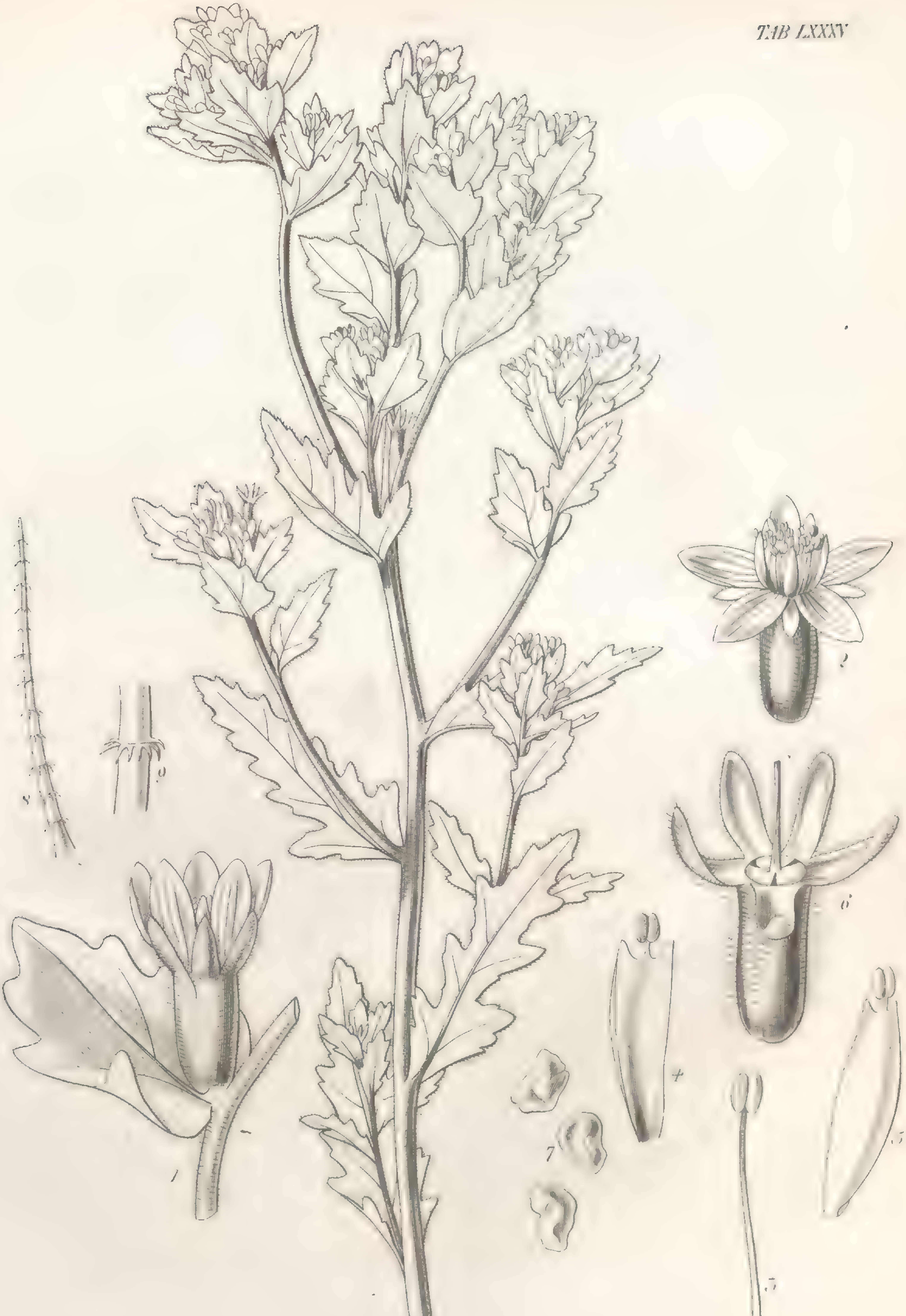
9. Œ. (Godetia) *rubicunda. Lindl. Bot. Reg. t.* 1856.

Mr Douglas' specimens are imperfect, and, as far as regards the colour of the flowers, resemble the figure of *Œ. roseo-alba*, in Sweet Brit. Fl. Gard. t. 268, more than that given by Dr Lindley; the leaves are, however, much narrower and more acute, and the species, along with the hybrid *Œ. bifrons*, Bot. Reg. t. 1405 (not of Sweet Br. Fl. Gard. 2d Ser. t. 386, which has yellow flowers), tends to unite *Œ. roseo-alba* to *Œ. Lindleyi*. All the three species have ascending seeds, a capsule attenuated at the base, with the stigma-lobes linear, and are perhaps most easily distinguished thus:—1. *Œ. roseo-alba*, stem erect, leaves oblong or lanceolate-oblong, obtuse.—2. *Œ. rubicunda*, stem erect, leaves acuminated.—3. *Œ. Lindleyi*, stem diffuse, ascending.

10. Œ. (Godetia) *Lindleyi. Dougl.?*—Œn. macrantha. *Nutt. ms.* (certe).

In this the stigma-lobes are rather shorter than the usual form of the plant from the Columbia.

11. Œ. (Eucœnothera) *marginata* (*Nutt. ms.*)*;* patentim canescenti-villosa, caule



Schkuhria micrantha

humillimo foliis radicalibus lanceolatis longe petiolatis dentato-pinnatifidis multo breviore, calycis tubo longissimo, capsula oblongo-cylindracea obscure tetragona.

Hab. Near the Blue Mountains, and about the Salmon Falls of the Snake River, Snake Country. *Mr Tolmie.*—The flowers are large and handsome; the tube about as long as the radical leaves.

12. Œ. (Euœnothera) *odorata. Jacq.?*

The leaves are rather more hairy than usual; but we perceive no essential difference.

1. Gaura (*Spach*) *decorticans;* glabra basi fruticosa, foliis lineari-lanceolatis utrinque attenuatis dentatis, junioribus pubescentibus, spicis bracteatis laxis brevibus obtusissimis, ovario longe subulato subpubescente, calycis tubo ovario 2-3-plo breviore lacinias petalaque æquantibus, stigmate subgloboso 4-lobo.

The bark is a shining white, with a reddish tinge, and readily peels off from the stem. Leaves two to three inches long. Bracteas leafy, linear, shorter than the subulate germen. Petals 4, somewhat unilateral. Style longer than the stamens. The spike, while one or two of the lower flowers only are open, is broad and very obtuse, and resembles the raceme of a *Diplotaxis.*

Ord. XXI. SALICARIEÆ. *De Cand.*

1. Lythrum *lineare. Linn.*

Ord. XXII. LOASEÆ. *Juss.*

1. Bartonia *lævicaulis. Dougl. in Hook. Fl. Bor. Am.* 1. *p.* 221. *t.* 69.

2. B. *aurea. Lindl. in Bot. Reg. t.* 1831. *Hook. Bot. Mag. t.* 3649.

3. B. *micrantha;* tota pilis brevibus hispida, caule erecto dichotomo albescente, foliis ovatis acuminatis basi cuneatis sessilibus sinuato-pinnatifidis, floribus glomeratis folio florali brevioribus ebracteatis, petalis 5 ovatis segmenta calycina superantibus, staminibus 15-20, 5 petaloideis apice emarginatis, capsula oblongo-cylindracea 3-sperma apice trivalvi, stylo leviter spiraliter torto.—(Tab. LXXXV.)

The hairs are jointed, and some of them, particularly those on the pedicels and branchlets near the flowers, are spinulose at the joints; the spines verticillate and reflexed. This plant has quite the habit of *Mentzelia.* especially in the broad foliage and few-seeded fruit, and the *B. albicaulis* tends to unite *Acrolasia* of Presl again to *Bartonia;* indeed we scarcely find a single character left to distinguish that genus. None of the species can be said to have more than 5 petals: *B. ornata* has 5 sterile petaloid stamens; *B. lævicaulis, parviflora, micrantha,* and probably also *B. nuda,* have the petaloid stamens antheriferous; while *B. albicaulis, aurea,* and *Acrolasia Bartonoides* are destitute of the petaloid stamens. In *B. ornata, lævicaulis,* and some others, the stamens are very numerous; in *B. albicaulis* there are about 30; in *B. micrantha* not more than 20; and in *Acrolasia,* 10. The seeds in most of the species are very numerous; in *B. albicaulis* fewer; but in *B. micrantha,* and in *Acrolasia* they are reduced by abortion to one to each placenta, placed in the capsule one above the other. The only difference then between *Acrolasia* and *Bartonia* lies in the style of the former not being twisted, and spirally twisted in the latter; but that character again is weakened by our present species, for here the style is so slightly twisted as scarcely to be perceptibly so. From *Bartonia* we do not see how *Mentzelia* can well be distinguished. Kunth's two species have 10 petaloid fertile outer stamens; *M. hispida* 10 outer subulate stamens, longer than the others; while in *M. aspera* and *oligosperma* they are

similar to the others. So that, if we rely on the definite number of seeds, we must place both *B. micrantha* and *Acrolasia* in *Mentzelia.*

Tab. LXXXV. *Fig.* 1. Flower, with floral leaf; *fig.* 2. Flower; *fig.* 3. Inner stamen; *fig.* 4 & 5, Outer or petaloid stamen; *fig.* 6. Young fruit; *fig.* 7. Seeds; *fig.* 8. Hairs from the branchlets near the flowers; *fig.* 9. Portion of the same.

Ord. XXIII. PORTULACEÆ. *Juss.*

1. Claytonia *tenuifolia* (*Torr. et Gray*); annua, radice fibrosa, caulibus plurimis simplicibus filiformibus, foliis anguste linearibus, radicalibus sensim in petiolum longum attenuatis, caulinis duobus oppositis sessilibus basi hinc subconnatis racemo terminali subumbellato sessili unibracteato multo longioribus, petalis oblongis calycem superantibus. *Torr. et Gray, Fl.* 1. *p.* 201.

2. C. *lanceolata. Pursh.*

Hab. Snake Country. *Mr Tolmie.*

3. C. *spathulata. Dougl. in Hook. Flor. Bor. Am.* 1. *p.* 226.—*β. major*, caulibus 3-4-uncias longis, foliis caulinis lanceolatis.—*γ. exigua*, caulibus gracilibus, foliis caulinis sublinearibus.—C. exigua. *Torr. et Gray, Fl.* 1. *p.* 200.

1. Calandrinia *Menziesii. Hook. in Torr. et Gray, Fl.* 1. *p.* 197.—C. speciosa. *Lindl. Bot. Reg. t.* 1598. *Torr. et Gray, l. c.* (*non Hook. Bot. Mag. t.* 3379.)—Talinum Menziesii. *Hook. Fl. Bor. Am.* 1. *p.* 223. *t.* 70.

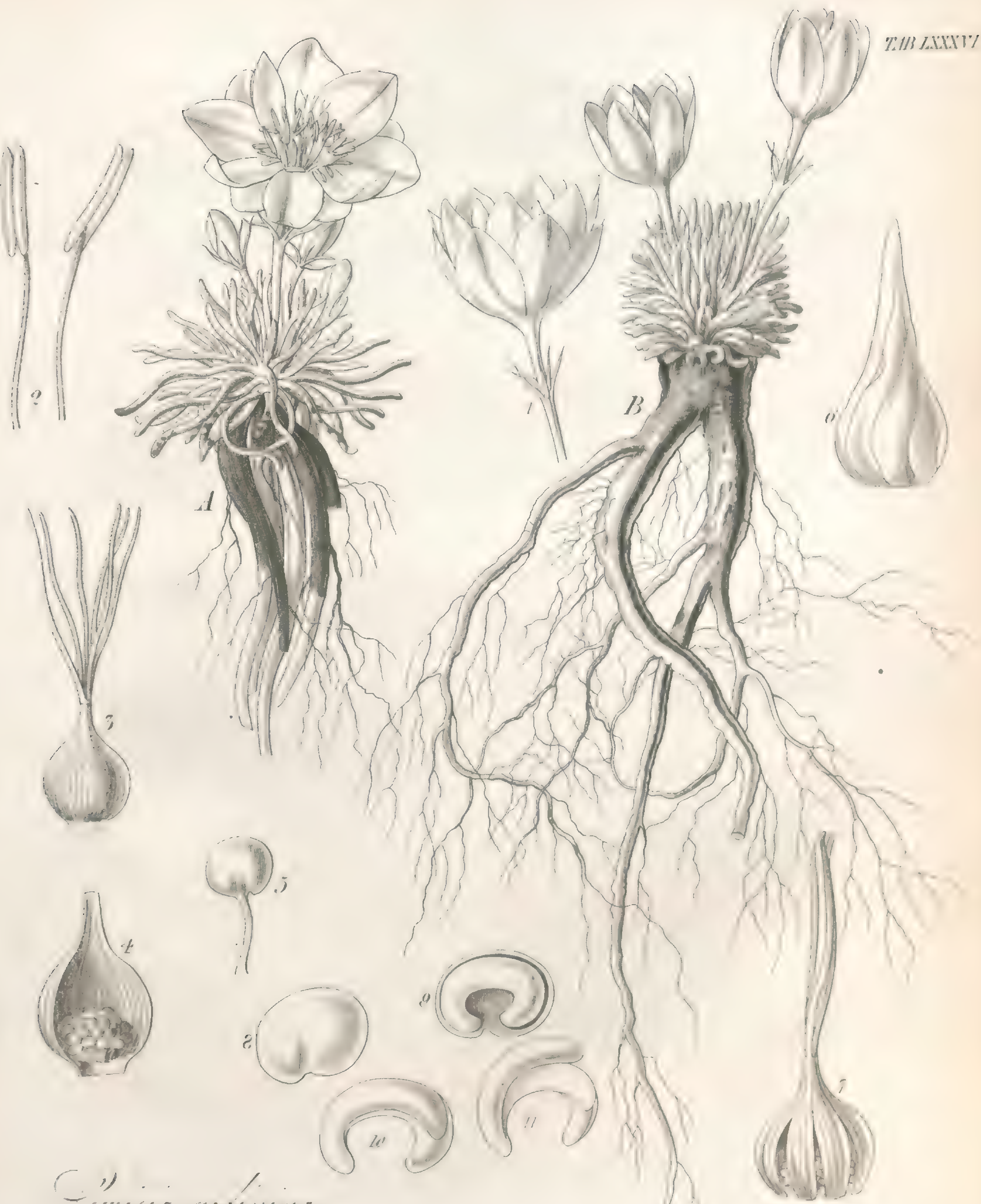
Ord.? PORTULACEIS *affinis.* (Spætalumeæ. *Nutt.*)

1. Lewisia *rediviva. Pursh.—Hook. Bot. Misc.* I. *p.* 344. *t.* 70. *Nutt. Fl. Rock. Mount. p.* 24. (Tab. LXXXVI.)

Hab. Common throughout the interior of the Snake Country. *Mr Tolmie.*

The specimens from the Snake Country of California consist of flowers only, but those in a most beautiful state. Others, collected by Mr Tolmie himself, to the north of the Columbia, have the leaves and roots quite perfect, and the flowers with capsules almost fully formed. Thus we are enabled to give a more complete account than has yet appeared of this plant, so well known to the Indians of N. W. America, and so much employed by them as an article of food. We may premise, that the account of the foliage and scapes and flower-buds, given in the *Botanical Miscellany*, is quite correct. But the roots were imperfect, from having been prepared for food; in which operation not only the fibrous parts are removed, but the whole of the bark also, (dark brown externally, bright red within,) leaving only the nearly pure white fleshy inner portion of the root. The flowers are large, the scapes succulent, jointed above the middle, and involucrated with 5-7 subulate membranous scales. Sepals about 7, orbiculari-ovate, membranous, spreading, obtuse, pale brown, persistent. Petals 8-10, of a delicate filmy texture and rose colour, 2 or 3 narrow and almost linear, the rest ovate acute, spreading, marcescent, and ultimately twisting around the stamens and pistil, while the sepals retain their form and colour. Stamens numerous, inserted at the base of the calyx. Filaments slender, shorter than the petals. Anthers linear-oblong, yellow, slightly bifid at each extremity, inserted by the back just above the fork. Ovary globose-ovate, finely striated, and contracted at the base into a very short thick stipes. Style persistent, but apparently jointed with a dark line a little above the base, and then dividing

TAB. LXXXVI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Lewisia rediviva

into about 6 filiform downy stigmas. Capsule coriaceously membranaceous, as in *Cerastium*, globose, terminated by the style and stigmas, and firmly surrounded by the twisted withered corolla, separating transversely at the base, and there cleft into about 6 segments, leaving the short stipes in the form of a fleshy ring. Seeds numerous, dark-brown, hard, shining, smooth, reniformi-globose, each attached to a long white podosperm, arising from the base of the cell. Embryo terete, yellow, curved round the white mealy albumen. Radicle short. Cotyledons long, unequal.

We do not find all the petals equal and narrow-lanceolate, as represented by Mr Nuttall.

Mr Nuttall considers this plant as intermediate between *Ficoideæ* and *Cactoideæ ;* but the above description and accompanying plate confirm the views we have all along entertained of its close affinity with *Portulaceæ.* With that Order it agrees in the one-celled capsule, the long podosperms and stigmas, the structure of the seed-coat, albumen, and embryo, and with some of the species in the marcescent corolla twisting round the pistil. It differs principally in the more numerous sepals (Torrey and Gray having lately limited *Portulaceæ* to those genera which have two or rarely three sepals), and by the capsule bursting from the base upwards. If, however, it be thought necessary to form of it a new Order, surely the name *Lewisieæ* is much to be preferred to the barbarous one given by Nuttall, derived from that by which the plant is known to some of the Indian tribes.

Tab. LXXXVI.—A. Flowering specimen, with growing leaves; part of the root with the bark taken off, exhibiting the state in which it is eaten.—B. Specimen in fruit, with the old dry leaves:—*nat. size.*—*Fig.* 1. Side view of a flower; *fig.* 2. Stamens; *fig.* 3. Pistillum; *fig.* 4. Ovary laid open, showing the ovules; *fig.* 5. Ovule, with its podosperm; *fig.* 6. Capsule firmly enveloped with the marcescent petals; *f.* 7. Capsule separated from the receptacle, splitting upwards at the base; *f.* 8. Seed; *f.* 9. Seed laid open, showing the albumen and embryo; *fig.* 10. & 11. Embryo, with its unequal cotyledons.

Ord. XXIV. GROSSULARIEÆ. *De Cand.*

1. Ribes *tenuiflorum. Lindl.—Hook. Fl. Bor. Am.* I. *p.* 235.

2. R. *malvaceum. Sm. in Rees' Cycl.* XXX. *n.* 13. *DC. Prod.* III. *p.* 483. *Benth. in Hort. Soc. Trans. N. S.* I. *p.* 476. *Don in Sweet Br. Fl. Gard. N. S.* IV. *t.* 340.—R. sanguineum. *Hook. et Arn. supra, p.* 141.—α. bracteis subintegris.—β. bracteis incisis.

Mr Bentham, in the *Hort. Soc. Transactions*, appears to describe this as a new species, without adverting to the circumstance that it had been long ago accurately defined by Smith, under the same name, from specimens collected by Menzies. In the *Flor. Bor. Am.* it is united to *R. sanguineum*, from which, however, we are now convinced it is perfectly distinct, on account of the short pedicels. Both these species have the branches of the style very short and recurved, while in *R. glutinosum* they are long and upright.

3. R. *glutinosum* (*Benth.*); inerme, foliis cordatis sub-5-lobis serratis venosis utrinque glabriusculis subviscosis, racemis 30-40-floris laxis pubescentibus folio 2-3-plo longioribus, pedicellis flore longioribus, calycis tubuloso-campanulatis laciniis oblongis obtusis patentibus petala (rubra) integerrima superantibus, bracteis oblongo-lanceolatis, baccis turbinatis hirsutis. *Benth. in Hort. Soc. Trans. N. Ser.* I. *p.* 476.

4. R. *Menziesii. Pursh, Fl. Am. Sept.* II. *p.* 732. *Hook. et Arn. supra, p.* 141.—R. ferox. *Sm. in Rees' Cycl.* XXX. *n.* 26.

5. R. *speciosum. Pursh, Fl. Am. Sept.* II. *p.* 731.—R. stamineum. *Sm. in Rees' Cycl.* XXX. *n.* 30.

Some of the young vigorous unbranched shoots, which are from a foot and a half to two feet long, are clothed with numerous rigid bristles or prickles, which give those portions of the plant a very different appearance from that in which it is usually figured and described. We have seen no fruit.

6. R. *Californicum;* glabrum, ramis nudis, spinis stipularibus ternis, foliis cordato-reniformibus 3-5-lobis, lobis subincisis, pedunculis 1-3-floris, bracteis rotundato-ovatis, calycis tubo brevi, laciniis ovato-lanceolatis tubo 3-plo longioribus demum reflexis apice glabris, staminibus petala triplo superantibus styloque simplici glabris, ovario glanduloso-piloso.

This differs from *R. niveum*, Lindl. (with which we are only acquainted from the figure in the *Bot. Register*), besides what is pointed out in the above diagnosis, by the erect, or rather patulous, not connivent, stamens.

7. R. *occidentale;* glabrum, ramis nudis, spinis stipularibus solitariis, foliis cordato-reniformibus 3-5-lobis, lobis incisis, pedunculis 1-3-floris, calycis laciniis oblongis tubo sublongioribus demum reflexis apice pedicellatis staminibus petala triplo longioribus glabris, stylo glabro ultra medium bifido stamina superante, ovario echinato.

The stamens in this and the next species, as well as in the last, have their anthers ovate, much larger in proportion to the flower than is usual in the genus, and tipped with a distinct blue mucro.

8. R. *subvestitum;* glanduloso-pubescens (foliis supra exceptis), ramis rigide setosis, spinis stipularibus 3-4 gracilibus, foliis cordatis 3-5-lobis supra parce pilosis, lobis incisis, pedunculis 1-3-floris, calycis pubescenti-glandulosi tubo ovarium subduplo superante laciniis oblongis parium breviore, staminibus petala duplo superantibus glabris, stylo glabro simplici (nunc bifido!), ovario piloso-glanduloso.

In all the flowers, except one, the style is decidedly simple, but in that one it is bifid to near the middle. The whole plant, with the exception of the upper side of the leaves, is covered with a glandular pubescence: the ovarium, although glandular and hairy, exhibits no tendency to become a prickly fruit.

9. R. *triflorum. Willd.*

ORD. XXV. SAXIFRAGEÆ. *Juss.*

1. Tellima (Lithophragma) *parvifolia;* hirsuta scabra, foliis omnibus tripartitis, segmentis inciso-pinnatifidis, petalorum lamina tripartita ovario semi-infero. *Hook. Fl. Bor. Am. v.* 1. *p.* 239. *t.* 78. A.

HAB. Green River of the Snake Country. *Mr Tolmie.*

2. T. (Lithophragma) *heterophylla;* hirsuto-scabra, foliis radicalibus cordatis 3-5-lobis crenato-lobatis, caulinis profunde 5-fidis, lobis inciso-trifidis, petalorum lamina apice trifida, ovario omnino supero.

The sub-genus *Lithophragma* of Nuttall (Pl. Rock. Mount. p. 26), we are disposed to distinguish by the unguiculate 3-lobed petals, and three distinct styles, while in the true species of *Tellima*, the petals are oblong-linear, sessile and irregularly laciniate, and the styles only two. From this sub-genus we of course exclude *Mitella trifida*, to include which Nuttall has given a very different character. The present species varies extremely in the size of the foliage, the leaves being sometimes only one inch, in other specimens two or even three inches in diameter.

1. Heuchera *hispida;* scapo nudo petiolisque hirsuto-pilosis, foliis cordatis rotundato-lobatis crenatis utrinque parce pilosis, panicula elongata angusta laxa, calycibus æqualibus undique longe et canescenti-hispidis, petalis lineari-oblongis pusillis fugacibus, staminibus 5 vix exsertis, stylis brevibus!

The filaments are not longer than the lobes of the calyx. It appears to be a very distinct species, approaching, in the short stamens, to *H. cylindrica*, Dougl., but with a totally different habit. The short styles are slightly at variance with the generic character usually given, but in *H. cylindrica* they are almost as short. In *H. cylindrica* no petals have been observed, here they are extremely caducous, so much so as not to be found soon after the flower-buds expand. It is therefore probable, that they may be also present in younger specimens than we have seen of *H. cylindrica*, and that the two species may form a sub-genus of *Heuchera*, distinguished by the fugitive petals, short thickish styles, and short filaments.

ORD. XXVI. UMBELLIFERÆ. *Juss.*

1. Hydrocotyle *natans. Cyrill.*

1. Bowlesia *lobata. Ruiz et Pav.*

1. Sanicula *arctopoides. Hook. et Arn. supra, p.* 141.

2. S. *nudicaulis;* caulescens, foliis præcipue radicalibus longissime petiolatis cordatis 3-partitis segmentis lato-obovatis sublobatis setoso-dentatis lateralibus bifidis caulinis consimilibus duobus oppositis ad umbellæ triradiatæ basin, calycis tubo echinato.

3. S. *Menziesii. Hook. et Arn. supra, p.* 142.

4. S. *laciniata;* caulescens, foliis petiolatis circumscriptione cordatis profunde 5-partitis, segmentis laciniato-pinnatifidis, laciniis angustis setoso-acuminatis, umbellis compositis, involucris involucellisque bipinnatifide laciniatis.

This is most allied to *S. Menziesii*, but differs in the much more deeply divided leaves.

5. S. *bipinnata;* caulescens, foliis longe petiolatis bipinnatis, pinnis remotis, pinnulis anguste-obovatis basi cuneatis inciso-dentatis dentibus mucronatis, umbella subcomposita, involucri foliolis profunde trifidis, laciniis pinnatifide laciniatis, calycis tubo basi nudo versus apicem echinato.

In the divided leaves, this approaches to *S. graveolens*, but is, in fact, a very different species.

1. Zizia *cordata. Koch.—De Cand. Prod.* 4. *p.* 100.

HAB. Green River of the Snake Country. *Mr Tolmie.*

1. Leptocaulis *inermis. Nutt.*

The fruit of this is rugulose, or very slightly tuberculate, but is much broader than in the other species of the genus.

1. Helosciadium *leptophyllum. DC.—var.?* latifolium.

The specimens are only in young fruit, and the segments of the upper leaves are considerably broader than in any form we have yet seen, while even the lower ones are broader than in *H. laciniatum*, DC., which we consider a mere variety of this species.

1. Ferula *fœniculacea. Nutt.—Hook. Fl. Bor. Am.* 1. *p.* 268.

Hab. Snake Country. *Mr Tolmie.*

2. F. *macrocarpa;* pedalis, puberulo-glaucescens, foliis ternatim compositis, laciniis lato-linearibus decurrentibus basi angustatis apice acutissimis, involucro oligophyllo caduco, involucelli vix dimidiati foliolis oblongo-lanceolatis arcte reflexis, fructibus ovato-oblongis pedicello longioribus.

Nearly allied to the larger specimens of *F. fœniculacea,* from Carlton House, but the leaves are much less compound, and the ultimate segments longer.

3. F. *caruifolia;* acaulis, glabra, virens, foliis latissime vaginatis supra decompositis, laciniis lineari-acuminatis, petiolo perbrevi, scapo folio paullo superante, involucro nullo, involucello magno monophyllo 10-12-partito, laciniis obovatis coloratis venosis erectis umbellam floriferam obvallantibus, fructibus lato-ellipticis.

A very remarkable species, quite free from glaucescence, with extremely large sheathing bases to the leaves, the divisions of which resemble those of *Carum Carui,* and with an involucellum large in proportion to the umbels. The disk of the back of the fruit is much broader than the wing, whereas, in the two preceding species, they are pretty nearly equal.

4. F. *parvifolia;* subcaulescens, glabra, foliis radicalibus petiolum subæquantibus circumscriptione deltoideis tripinnatifidis, laciniis ovatis acuminatis incisis patentibus, caule subnudo foliis 3-4-plo longiore, involucro oligophyllo vel nullo, involucello sub-8-phyllo, foliolis lanceolato-subulatis erectis, fructibus late elliptico-obovatis.

The leaves are small, not more than an inch and a half long, on slender petioles of the same length. The flowers are bright yellow. The disk of the fruit is scarcely so broad as the wing. We may here notice, that *F. Palmella,* Hook. Fl. Bor. Am., is *Cyncopterus glomeratus,* Nutt.

1. Seseli? *triternatum. Pursh.—Hook. Flor. Bor. Am.* 1. *p.* 264. *t.* 94.

Hab. Snake Country.

Nuttall (Pl. Rocky Mount. p. 27) refers this to *Eulophus,* but the fruit seems very different. He describes there two species, one glabrous and caulescent; this, although not figured in the Flor. Bor. Am., was considered a mere form of *S. triternatum;* the other of Nuttall seems only to differ from our plant by being puberulous, while the true *S. triternatum* is quite glabrous.

1. Caucalis *microcarpa;* piloso-hispida, foliis tripinnatifidis, umbella 4-5-radiata, involucri foliis sessilibus folia caulina simulantibus, umbellæ radiis fructiferis 3-4-plo brevioribus, umbellulis 5-7-fidis, involucelli foliolis 3-4 linearibus, fructibus oblongo-ellipticis parvis, aculeis brevibus apice uncinatis.

This has much the appearance of *Anthriscus vulgaris,* but wants the beak to the fruit; it resembles likewise *C. daucoides* and *leptophylla,* but the fruit is much smaller, and the leafy involucre is a peculiar character. Some of the young specimens are only two or three inches high, but one in fruit is upwards of a foot.

ATENIA. *Nov. Gen.*

Calycis margo 5-dentatus persistens. *Petala* obcordata cum lacinula inflexa. *Fructus* subglobosus latere compressus didymus lævissimus. *Mericarpia* dorso jugis 5 filiformibus subprominulis æqualibus æquidistantibus, lateralibus ante marginem positis. *Valliculæ* evittatæ! Commissura angusta evittata. *Carpopodium* integrum tenue. *Semen* tereti-convexum antice planiusculum.—Herbæ *glabræ bipedales.* Caulis *teres superne ramosus, oligophyllus.* Folia *pinnata, pinnis* 2-3, *angustissime linearibus basi apice attenuatis, vaginis elongatis, angustis.* Umbella *composita, sub* 10-*radiata.* Involucrum *nullum aut monophyllum parvum subulatum.* Involucella *polyphylla, foliolis parvis subulatis.* Flores *albi.*

1. A. *Gairdneri.*

Besides our Californian specimens, we have the same, gathered by the late Dr Gairdner, in dry grounds by the Columbia River.

ORD. XXVII. CAPRIFOLIACEÆ. *Juss.*

1. Lonicera *ciliosa. Poir.—Hook. et Arn. supra, p.* 143.

2. L. *Ledebourii. Koch.—Hook. et Arn. supra, p.* 143.

3. L. (?) *subspicata ;* fruticosa ramulis folisque junioribus pubescentibus, foliis oppositis breviter petiolatis coriaceis ellipticis integerrimis nitidis subtus pallidioribus, floribus laxe spicatis bracteatis solitariis v. binis oppositis, ovario globoso limbo calycino 5-lobo, corollo bilabiata pubescenti labio superiore 3-inf.-trifido.

Of this remarkable plant, our collection possesses but a solitary specimen, with several spikes, but with few perfect flowers. The branches are woody. Leaves about an inch long, their margins much recurved in a dry state ; upper branches terminating in flowering spikes, the leaves passing into opposite remote pairs of bracteas, and having in their axils lesser bracteas, which bear the flowers solitary or in pairs. These are small, not half an inch long. Ovary globose, crowned with 5 moderately large blunt lobes or teeth. Corolla downy, oblong, bifid or two-lipped, the lips rather unequal, one with 3, the other with 2 oblong lobes. Stamens 5. Anthers large, rather shorter than the corolla. Anthers large, linear-oblong. Style reaching to the top of the stamens, curved. Stigma globose.—The aspect is quite different from any *Lonicera* with which we are acquainted.

ORD. XXVIII. RUBIACEÆ. *Juss.*

1. Galium *boreale. L.*—G. septentrionale. *Roem. et Sch.*

HAB. Snake Country. *Mr Tolmie.*

2. G. *Californicum ;* annuum? gracile diffusum ramosum ubique hirsuto-pilosum, caulibus 4-gonis, foliis quaternis patentibus ovatis acutissimis, pedunculis subterminalibus solitariis ternisve 1-3-floris folia superantibus, ovario subgloboso lævi glabro, corollæ (albæ) laciniis acutissimis.

Imperfect specimens of this, collected also in California, by Mr Menzies, have been long known to us. Mr Douglas' possess flowers, but we are still unacquainted with the fruit. The root, also, we have not seen. When held between the eye and the light, the leaves present a distinct reticulated appearance.

ORD. XXIX. VALERIANEÆ. *Juss.*

1. Plectritis *congesta. De Cand. Prod.* 4. *p.* 631.— *β. Hook. Fl. Bor. Am.* 1. *p.* 291.

ORD. XXX. COMPOSITÆ.

1. Bulbostylis *Cavanillesii. De Cand. Prod.* 5. *p.* 138.—Eupatorium squarrosum. *Cav. Ic.* 1. *p.* 66. *t.* 98.

1. Corethrogyne *Californica. De Cand. Prod.* 5. *p.* 215.

1. Aster *salsuginosus. Rich.—Hook. Fl. Bor. Am.* 2. *p.* 6. *Bot. Mag. t.* 2492.—Erigeron Californicum. *Dougl. ms.*

This species is from the interior, and was sent by Dr Gairdner as collected by Mr Douglas.

1. Diplopappus *incanus. Lindl. in De Cand. Prod.* 5. *p.* 278. *Bot. Reg. t.* 1693. *Hook. Bot. Mag. t.* 3382.

2. D.? *occidentalis;* elatus, caule glaberrimo angulato superne ramoso, ramis copiosis subsimplicibus subcorymbosis monocephalis, foliis linearibus rigidis obtusis pilis brevibus simplicibus adpressis utrinque asperis, rameis multo minoribus, involucri hemisphærici squamis numerosis imbricatis subulatis pubescentibus interioribus sensim majoribus lanceolatis albidis fusco-lineatis, radii flosculis sub-40 linearibus purpureis discum duplo superantibus, pappo uniseriali?, ovario hirsuto.

The structure of the pappus seems rather to resemble that of *Erigeron*, but the capitula are only in a young state: the habit, however, allies it more to *Diplopappus* of De Candolle.

3. D. *leucophyllus. Lindl. in De Cand. Prod.* 5. *p.* 278.

Of this we have seen no specimen, nor are we certain that it was collected by Douglas, although, as it is a Californian plant, and named by Professor Lindley, we think this probable.

1. Erigeron *speciosum. De Cand. Prod.* 5. *p.* 284.—Stenactis speciosa. *Lindl. Bot. Reg. t.* 1577.

2. E. *glabellum. Nutt.—Hook. Flor. Bor. Am.* 2. *p.* 18. *Bot. Mag. t.* 2923.

HAB. Snake Country. *Mr Tolmie.*

3. E. *purpureum. Ait.—De Cand.* 5. *p.* 285. *Hook. Fl. Bor. Am.* 2. *p.* 19.

1. Distasis? *concinna;* tota pilis albidis patentissimis canescenti-strigosa, radice perenni collo multicipiti, caulibus erectis gracilibus angulatis ramosis, foliis linearibus basi attenuatis radicalibus sublonge petiolatis, involucri foliolis subulatis albidis dorso viridibus, radii flosculis uniserialibus numerosis anguste linearibus disco duplo longioribus, pappo conformi biseriali, serie ext. brevi paleaceo, int. 8-10 setoso.

HAB. Snake River, below the Salmon Falls, Snake Country. *Mr Tolmie.*

Of the genus of this most beautiful plant we are uncertain. The slender stems scarcely a span high, the copious foliage, peduncles, and involucres, are every where hoary with harsh white spreading hairs. The flowers are about the size of a daisy; the ray bright blue, in the dried plant, and the disk yellow. The outer pappus consists of 5 or 6 lanceolate, short paleæ; the hairs of the inner row are equal in thickness throughout.

1. Brachyris *Californica. De Cand. Prod.* 5. *p.* 313.

The genus *Brachyris*, as we have already mentioned, in the *Companion to the Bot. Mag.* II. p. 51, is not different from *Guttierrezia* of Lagasca, which name ought, by right of priority, to be adopted. This species is surely a var. of *B. Euthamiæ;* indeed we are even far from certain if the *B. paniculata, Euthamiæ, Californica,* and *Texana,* are not all forms of the *G. linearifolia,* Lag.

1. Grindelia *hirsutula. Hook. et Arn. supra, p.* 147. *De Cand. Prod.* 7. *p.* 278.—G. rubricaulis. *De Cand. Prod.* 5. *p.* 316.

1. Woodvillea *calendulacea. De Cand. Prod.* 5. *p.* 318.

Of this we have found no specimens in our collection of Mr Douglas' plants, but it seems probable, from the description given by De Candolle, and which seems to have been taken from an immature specimen, that it is the same as *Aster Californicus,* Less.—We may here remark, that we do not well see how this plant and *Erigeron glaucum,* Ker, differ ; the latter is *supposed,* by Ker, to have come from South America ; afterwards the locality of Buenos Ayres was given by some foreign botanists, we do not know for what reason. We have never received it from Buenos Ayres, and suspect the seeds may have been brought by Mr Menzies from California.

1. Aplopappus *linearifolius. De Cand. Prod.* 5. *p.* 347.

In some of the radical florets we find on each side a long subulate appendage, arising from the base of the ligule.

2. A. *florifer. Hook. et Arn.—α.* foliis lineari-spathulatis.—Erigeron florifer. *Hook. Flor. Bor. Am.* 2. p. 20.—β. foliis obovato-spathulatis.

Hab. β. Dry plains of the Snake Country. *Mr Tolmie.*

This species is very nearly allied to *A. linearifolius* in the capsule and involucres, but the foliage is quite different.

1. Pyrrocoma *grindelioides. De Cand. Prod.* 5. *p.* 350.—Aplopappus squarrosus. *Hook. et Arn. supra, p.* 146. *De Cand. Prod.* 7. *p.* 280.

The pappus of *P. carthamoides,* as well as of the present species and of the following, is certainly in a double series, the outer row similar to the inner, but shorter and more slender. There is therefore reason to fear that the genus must be either distinguished from *Aplopappus* solely by the homogamous capitula (but there are some Chilian species of *Aplopappus* without a ray) and tawny rigid patulous pappus, or the two should be united.

2. P. *Menziesii ;* caule suffruticoso, ramis elongatis simplicibus apice corymbosis, foliis lineari-spathulatis apice acute tridentatis punctatis glabris, corymbis compactis paucifloris, involucri obconici squamis imbricatis oblongis acutis apice herbaceis subpatulis, achenio sericeo.

This, so far as we know, has only been found by Mr Menzies ; it approaches closely to those species of *Aplopappus* placed in the section *Aplodiscus* by De Candolle. The receptacle is favose and fimbriated. The leaves seem to have been somewhat succulent when growing.

1. Lessingia *germanorum. Cham. in Linnæa,* 4. *p.* 203. *t.* 2. *f.* 2. *Less. Comp. p.* 388. *f.* 17. *De Cand. Prod.* 5. *p.* 251.

Our specimens, in Douglas' collection, are more slender, less branched, more tomentose, and the floriferous branches much longer than in that we have from Chamisso. The style is unquestionably that of the *Senecioneæ*, but the habit of the plant that of some of the slender *Astereæ*.

1. Baccharis *Douglasii. De Cand. Prod.* 5. *p.* 400.—B. viscosa. *Hook. et Arn. supra, p.* 147.

This is certainly our *B. viscosa*, from California, and we cannot see how it is to be distinguished from the Chilian plant.

2. B. *viminea. De Cand. Prod.* 5. *p.* 400.

3. B. *pilularis. De Cand. Prod.* 5. *p.* 407.

We have no specimen of this in the collection, unless it prove, what we suspect, the same as *B. consanguinea.*

4. B. *consanguinea. De Cand. Prod.* 5. *p.* 408.—B. glomeruliflora. *Hook. et Arn. supra, p.* 147.

Although, in deference to De Candolle, we admit this as a distinct species, we still hesitate about its being really different from *B. glomeruliflora.* Our var. α., of this work, we would refer to *B. consanguinea*, certainly, and the female of β. to *B. pilularis*, which has the capitula solitary: the male of our var. β. may belong to either.

1. Franseria *Chamissonis. Less.—Hook. et Arn. supra, p.* 148.—β. *De Cand. Prod.* 5. *p.* 524.

The var. β. only is in the collection; this has quite the habit of an *Ambrosia*, and perfectly unlike the var. α.

1. Coniothele *Californica. De Cand. Prod.* 5. *p.* 531.

The description given by De Candolle is extremely correct: he has omitted, however, to take notice of a remarkable structure in the ray: the ligula is oblong, very obtuse, cordate at the base, destitute of tube, and therefore sessile on the top of the ovarium, embracing the base of the style. The florets of the disk are broadly infundibuliform: the anthers included, as well as the abortive style and capitate stigma; these are apparently quite destitute of an ovary. The achenia (of the ray) possess that remarkable property noticed by De Candolle, which was first observed in the seed of the genus *Gilia*, and of the common Cress, of emitting horizontal filaments, which, after being kept some time in water, unite and form a radiately striated gelatinous mass or limbus, equal in thickness to the seed itself. Mr Joseph Hooker has observed the same peculiarity in one or two species of *Compositæ* from Van Diemen's Land.

1. Leptosyne *Douglasii. De Cand. Prod.* 5. *p.* 531.

The florets of the disk have the style abortive; the achenia of the ray are surrounded by a winged margin, and have the pappus coroniform.

1. Alarçonia *helenoides. De Cand. Prod.* 5. *p.* 537.

2. A.? *angustifolia. De Cand. Prod.* 5. *p.* 537.

1. Agarista *calliopsidea. De Cand. Prod.* 5. *p.* 569.

1. Helianthus *Californicus. De Cand. Prod.* 5. *p.* 589.

De Candolle, l. c. p. 590, names *H. longifolius*, of the Flor. Bor. Am., *H. Hookerianus;* and again, by some inadvertency, unites it, in the Mantissa, Prod. VII. p. 290, to *H. Californicus.* These two are, however, perfectly distinct, and probably belong to different genera. The Californian form of *H. longifolius*, Hook., or *H. Hookerianus*, DC., may perhaps be distinct from the North West Coast plant, but they agree nearly in the involucre and in the pappus.—We have also another species of *Helianthus*, with alternate upper leaves, which are petiolate, rhomboidal, ovate, bluntish, and, as well as the stem, scabrous with very short whitish hairs; pappus of one or two aristæ; achenia glabrous; the scales of the involucre foliaceous, patulous, and obtuse. This we cannot refer satisfactorily to any described species, but in the imperfect state of the specimen before us we decline offering any further remarks.

1. Bidens *Californica. De Cand. Prod.* 5. *p.* 599.

1. Actinolepis *multicaulis. De Cand. Prod.* 5. *p.* 656. *Hook. Ic. Pl. v.* 4. *t.* 325.

De Candolle states this to be only two inches high, but one of our specimens is at least six inches. The stems are diffuse and corymbosely branched at the extremity.

1. Bahia *stæchadifolia.* β. Californica. *De Cand. Prod.* 5. *p.* 656.

This species is certainly shrubby, at least at the base.

2. B. *gracilis;* herbacea? albo-tomentosa, foliis linearibus obtusis inferioribus spathulatis omnibus integris integerrimisque planis, ramis elongatis strictis gracilibus unifloris, involucri squamis oblongis.

The specimens are about 8 or 10 inches high, and appear to be taken from near the root; the branches spring out from about the same point, near the base of the specimen, and are slender, quite straight and erect, and all of nearly equal height. The flowers retain their bright yellow colour, while in almost all the other species there is a strong disposition to turn green.

Hab. Snake Fort, Snake Country. *Mr Tolmie.*

3. B. *artemisiæfolia.—Less. Hook. et Arn. supra, p.* 149.—β. Douglasii. *De Cand. Prod.* 5. *p.* 657.

4. B. *confertiflora. De Cand. Prod.* 5. *p.* 657.

Mr Menzies also found this in California.

5. B. *tenuifolia. De Cand. Prod.* 5. *p.* 657.

This we have not seen.

6. B. *achillæoides. De Cand. Prod.* 5. *p.* 657.

1. Chænactis *stevioides;* annua subglabra, caule corymbosim ramoso, foliis pinnatis, pinnis linearibus obtusis nunc pinnatifidis, involucro glanduloso-pubescente, floribus radii tubuloso-infundibuliformibus disco paullo majoribus, acheniis strigosis.

Hab. Snake Country. *Mr Tolmie.*

This approaches closely to *C. glabriuscula,* but is decidedly annual, with apparently white, not yellow flowers, smaller capitula, and the ray-florets not so conspicuously palmatifid. The whole plant is from three to four inches high, while *C. glabriuscula* is from eight to sixteen: it is also more glabrous than *C. gla-*

briuscula. The pappus of the floret of the ray, in all the species, is at least a half shorter than the corolla, while that of the disk is almost as long as the corolla. We have some doubts whether this genus ought to be placed next *Palafoxia*, among the *Eupatoriaceæ*, or next *Hymenopappus*, as has been proposed by De Candolle. The branches of the style are long, linear, and acuminated, and we have not perceived any trace of the "short obtuse cone" which De Candolle describes; the branches are hirsute from a little above their separation to the very apex: all this agrees with *Eupatorineæ*, but here, if we mistake not, the stigmatic lines run on to the summit.

2. C. *glabriuscula. De Cand. Prod.* 5. *p.* 659.

3. C. *lanosa. De Cand. Prod.* 5. *p.* 659.

4. C. *achilleæfolia;* perennis? erecta, caule cano-lanato sursum corymbosim ramoso, foliis pinnatis cano-tomentosis, pinnis linearibus pinnatifidis, lobis oblongis minutis, involucro pubescente obconico, floribus radii tubuloso-infundibuliformibus disco vix majoribus, acheniis adpresse albo-hirsutis, styli ramis paullo exsertis recurvatis.

HAB. Dry plains in the Snake Country. *Mr Tolmie.*

Very closely allied to *C. Douglasii* or *Hymenopappus Douglasii*, Hook. Flor. Bor. Am. 1. p. 316, which is still retained in the latter genus by De Candolle, although it has the short outer pappus and the widened florets of the ray of *Chænactis*. *C. Douglasii* is more glabrous than the present species, has the pinnæ of the leaves larger and less divided, the involucre large and nearly hemispherical, and very densely or almost tomentosely pubescent, the pappus, as well as the hairs of the hirsutely villous achenia, tawny, and the branches of the style straight and much exserted. The first three species have the tube of the corolla glabrous, and the scales of the pappus about five or six; but in *C. achilleæfolia* and *C. Douglasii*, the tube is more or less glandular, and the scales of the pappus from eight to twelve.

1. Burrielia *gracilis. De Cand. Prod.* 5. *p.* 664. *Bartl. in Linnæa*, XII. *Litt. p.* 80.

This is frequently cultivated under the name of *Lasthenia Californica*, but has the involucre of 10 or 12 distinct scales.

2. B. *tenerrima. De Cand. Prod.* 5. *p.* 664.

We have not seen this plant; perhaps it is a mere variety of the preceding.

3. B. *microglossa. De Cand. Prod.* 5. *p.* 664.

A species with quite the habit of *Pectis.*

1. Lasthenia *glaberrima. De Cand. Prod.* 5. *p.* 664. (*excl. syn.*)

This species has a pappus, but *L. Californica*, Lindl., referred here by De Candolle, has none, and is, we conceive, a mere form of the following. Under the name of *L. Californica* we have received both *Burrielia gracilis* and also *Lasth. glaberrima.*

1. Hologymne *glabrata. Bartl. Ind. Sem. Gott.* 1837. *Linnæa*, XII. *Litt. p.* 81.—Lasthenia glabrata. *Lindl. Bot. Reg. t.* 1780. *De Cand. Prod.* 5. *p.* 665.—L. glaberrima. *Lindl. Bot. Reg. t.* 1823. (*non DC.*)

1. Baeria *chrysostoma. Fisch. et Meyer, Ind. Sem. Petrop.* 1835. *Don in Sweet, Br. Fl. Gard. N. S. t.* 395. *De Cand. Prod.* 7. *p.* 254.

Of this we have received one specimen, from the herbarium of the Hort. Soc. of London, under the name of *Lasthenia glabrata.* Indeed, *Hologymne glabrata, Lasthenia glaberrima, Burrielia gracilis,* and the present plant, are so similar in appearance, as to be often confused in herbaria and in gardens. The four may, however, at all times, and under all aspects, be readily distinguished by attending to the involucre and pappus. *Burrielia* and *Lasthenia* have a paleaceous pappus—*Hologymne* and *Baeria* none;—on the other hand, in *Burrielia* and *Baeria* the leaflets of the involucre are distinct from each other, in *Lasthenia* and *Hologymne* they are united.

1. Helenium *pubescens. Ait.?—Hook. et Arn. supra, p.* 149.—H. puberulum. *De Cand. Prod.* 5. *p.* 667.—Cephalophora decurrens. *Less. in Linn.* 6. *p.* 517. *De Cand. Prod.* 5. *p.* 663.

The specimens collected by Mr Douglas, and named by De Candolle *H. puberulum,* are younger, taller, less branched, and not so dark coloured when dry, as those from Chamisso's and Beechey's collection; but they all appear to us to belong to the same species. De Candolle says the lower leaves are incised, but these we have not seen.

1. Madia *sativa. Mol.—De Cand. Prod.* 5. *p.* 691.—M. viscosa. *α. Hook. et Arn. supra, p.* 145.—Sclerocarpus gracilis. *Smith in Rees' Cycl. n.* 2. *De Cand. Prod.* 5. *p.* 666.

1. Madaria *elegans. De Cand. Prod.* 5. *p.* 692.—Madia elegans. *Don in Bot. Reg. t.* 1458.—M. viscosa, *β. Hook. Fl. Bor. Am.* 2. *p.* 24. *Hook. et Arn. supra, p.* 145.

2. M. *corymbosa. De Cand. Prod.* 5. *p.* 692.—*β.*? hispida. *De Cand. l. c.*

The Californian plant belongs to the var. *β.* Besides those mentioned by De Candolle, *Sclerocarpus exiguus,* Sm. in Rees' Cycl. (De Cand. Prod. 5. p. 566), belongs to the present genus. It is a slender species, about four inches high; leaves free from glands, half an inch long and half a line broad; branches filiform, few, leafless, one-flowered, about an inch and a half long, with a few glandular hairs near the apex; involucre of few leaves, covered with glandular hairs; flowers of the ray from four to seven; the ligula small and inconspicuous; the florets of the disk are quite abortive.

1. Hemizonia *congesta. De Cand. Prod.* 5. *p.* 692.

Our specimen is shrubby at the base, the leaves linear-lanceolate and quite entire. The first section of this genus is so closely allied to *Madaria,* both in character and habit, that we can point out no mark by which it may be readily distinguished, except that the achenia are obovate trigonous, the flat face being towards the disk; while in *Madaria,* the achenia are laterally compressed. The stipes is remarkably curved up against the face of the achenium.

2. H. *multicaulis;* herbacea multicaulis, caulibus simpliciusculis vel apice corymbose ramosis pilis patentibus mollibus hirsutis, foliis radicalibus lineari-lanceolatis serrulatis plurinerviis glabriusculis, caulinis villosiusculis longe linearibus, inferioribus oppositis serrulatis villosiusculis, superioribus alternis subintegerrimis, capitulis bracteatis 2-3-nis congestis, acheniis obovatis obtusis stipite rostelliformi inflexo.

We cannot persuade ourselves that this is a mere form of the preceding, to which, however, it is very closely allied, except in habit. The root seems annual, or rather biennial, while *H. congesta* appears quite woody at the base. To the description given by De Candolle of *H. luzulæfolia,* this certainly approaches; but there is no corymb, and we do not find paleæ over the whole receptacle.

3. H. *angustifolia. De Cand. Prod.* 5. *p.* 692.

We have seen no specimen according with the description given of this.

4. H. (Olocarpha) *sericea;* caule herbaceo erecto cano-tomentoso apice corymboso, foliis lineari-lanceolatis utrinque attenuatis 3-5-nerviis subdenticulatis cano-sericeis eglandulosis, involucro ebracteato hispidulo, acheniis estipitatis obovatis gibbis muticis, receptaculi paleorum serie exteriore basi gamophyllo.

We cannot refer this satisfactorily to any of De Candolle's species; it may be perhaps his *H. luzulæfolia*, but the stem and leaves can neither be called villous nor hirsute.

5. H. (Olocarpha) *luzulæfolia. De Cand. Prod.* 5. *p.* 693.

This we are not acquainted with.

6. H. (Olocarpha) *filipes;* caule suffruticoso erecto simplici pilis mollibus hirsuto, foliis integerrimis linearibus uninerviis pilis mollibus hirsutulis eglandulosis, inferioribus elongatis acuminatis in axillo fasciculos foventibus, superioribus multo minoribus bracteiformibus nigro-glandulosis, corymbo laxo, ramis glabris filiformibus rigidulis, capitulis solitariis longe pedicellatis paucifloris, involucro obconico hirsuto ebracteato oligophyllo, receptaculis palearum serie exteriore gamophyllo, achenio oblongo basi attenuato.

The corymb is lax, the primary branches bear a few glanduliferous bracteas or leaves, but the stalk that supports the capitulum is slender, quite naked, and rigid. In habit it is very dissimilar to the other species.

7. H. (Olocarpha) *macradenia. De Cand. Prod.* 5. *p.* 693.

To this we presume a specimen we have from Mr Douglas belongs, but it differs considerably from the definition given by De Candolle. In that before us the stem seems to have been decidedly shrubby, branched only towards the extremity, the branches simple, or sometimes bearing again a couple of branches at the apex; these, as well as the foliage, are slightly hairy; leaves linear, lower ones about an inch and a half long, and decreasing upwards to scarcely half an inch; about half a line broad, quite entire, often bearing fascicles of young leaves in their axils. Capitula sessile, solitary, terminal, or on very short leafy axillary opposite nearly terminal branchlets; involucre bracteated; bracteæ and uppermost leaves terminated by a sessile brown shining gland; leaves of the involucre terminated by a large thick cylindrical gland, concave at the apex, the margin serrated, the serratures thick, cylindrical, and resembling callous glands. Achenium obovate, gibbous, without any beak; receptacle covered with paleæ, which are curiously and irregularly united together, like honeycomb, at the base.—De Candolle says of his plant, " Priori (*H. luzulæfoliæ*) prima fronte simillima," whereas ours bears no resemblance to any other of the genus.

1. Oxyura *chrysanthemoides. De Cand. Prod.* 5. *p.* 693. *Lindl. in Bot. Reg. fol.* 1850 (quoad descriptionem).

De Candolle's description agrees well with our wild specimens from Douglas, but not with the figure in the *Bot. Register*, which, however, appears to be the plant generally, if not solely, cultivated under this name. Lindley, indeed, says, that the pappus there represented to the florets of the disk, was introduced by an inadvertency of the draughtsman; but seeds sent to the gardens of St Petersburgh and Breslau, produced plants with a pappus. The branches of the style of the florets of the disk present also a different appearance.

1. Calliglossa *Douglasii.*—Oxyura chrysanthemoides. *Bot. Reg. t.* 1850 (quoad

tabulam). *Fisch. et Mey. Ind.* 3. *Sem. Petrop.* 1837. *n.* 1449. *Linnæa,* XII. *Litter. p.* 102. *Schauer, Del. Sem. H. Vrat.* 1837. *p.* 3. *Linnæa,* XII. *Litt. p.* 89.

This genus differs from *Oxyura* by the achenia of the disk having a pappus and being pubescent; from *Callichroa,* by the form of the achenia, the entirely paleaceous receptacle, and the pappus being unequal in length and rather more paleaceous; from *Hartmannia,* by the paleæ of the pappus not being membranous, and the form of the achenia of the ray; and from *Madaraglossa,* by the paleæ of the pappus not plumosely ciliated or villous at the base. It is unnecessary to propose a new generic character, as that given by Fischer and Meyer, combined with Schauer's observations, l. c., under *Oxyura* and *Callichroa,* is sufficient.

1. Callichroa *platyglossa. Fisch. et Mey. Ind.* 2. *Sem. Petrop. p.* 31. *et Ind.* 3. *n.* 347. *Schauer Del. Sem. H. Vrat.* 1837. *p.* 3. *Don in Sweet, Br. Fl. Gard. p.* 1. *t.* 373. *De Cand. Prod.* 7. *p.* 294.

Very similar in habit to the two preceding; our wild specimens were collected by Mr Douglas, although unnoticed as such by De Candolle.

1. Hartmannia *fasciculata. De Cand. Prod.* 5. *p.* 693.

The paleæ to the florets of the disk are about eight in number (not five as in De Candolle's generic character), equal in length, but unequal in breadth, and are irregularly inciso-serrated towards the apex; the terminal tooth or segment being very acute, so that the paleæ can scarcely be called obtuse as they are described in De Candolle's Prodromus.

2. H. *corymbosa. De Cand. Prod.* 5. *p.* 694.

With this we are unacquainted.

3. H. *ciliata. De Cand. Prod.* 5. *p.* 694.

This also we have not seen; the want of a pappus seems to remove it from the genus; perhaps it ought to be united to *Oxyura.*

4. H.? *pungens;* herbacea basi sublignosa confertim foliosa, caule parce ramoso pilis albidis setoso, foliis inferioribus pinnatifidis, lobis oblongis vel oblongo-lanceolatis spinoso-mucronatis, superioribus ac fasciculorum axillarium linearibus integris rigidis spinescentibus margine recurvis papilloso-pilosis, capitulis subsolitariis bracteatis, involucri squamis spinescentibus glandulosis ligulas radii bifidas subæquantibus, acheniis epapposis radii gibbis areola terminali valde obliqua, receptaculo toto paleaceo, paleis lanceolato-subulatis spinescentibus. *Hook. Ic. Pl. v.* 4. *t.* 334.

This is a very remarkable plant, more like a species of *Navarretia* among the *Polemoniaceæ* than one of the present Order. We can find no trace of it in De Candolle's Prodromus.

1. Layia *gaillardioides;* decumbens setis patentibus rigidulis undique hispida, foliis oblongo-lanceolatis inferioribus inciso-serratis superioribus integris, ramulis floribus monocephalis subelongatis, ligulis 12-15 obovatis apice trifidis discum duplo superantibus, pappo disci fulvo.—Layia galardioides. *De Cand. Prod.* 7. *p.* 294.—Tridax? *Hook. et Arn. supra, p.* 148.

The genus *Layia,* which we had suggested for this plant, is the same as *Madaraglossa,* the only difference being that in the latter the paleæ of the receptacle are all placed between the ray and the disk, not spread over it. The above species we have not received from Douglas. *Layia* we retain to a leguminose plant described supra, p. 182.

2. L. *hieracioides;* caule erecto, ligulis integris.—Madaraglossa hieracioides. *De Cand. Prod.* 5. *p.* 694.

There are certainly no paleæ among the florets of the disk. The flowers of this and the preceding are yellow; in the following white.

(L. *Douglasii;* subdecumbens pilis albidis eglandulosis setosa, foliis inferioribus pinnatifido-dentatis, superioribus integris, pappo disci fulvo, ligulis (albis) trifidis discum subduplo superantibus.

Hab. On the gravelly islands of the river Columbia, between the "Narrows" and "Great Falls." *Douglas.*—We have introduced this here in order to complete the account of the genus, it having been, by an oversight, omitted in the Flor. Bor. Am.)

3. L. *glandulosa.*—Blepharipappus glandulosus. *Hook. Fl. Bor. Am.* 1. *p.* 316. *De Cand. Prod.* 5. *p.* 679.—Eriopappus glandulosus. *Arn. in Lindl. Nat. Syst. p.* 443.—Madaraglossa angustifolia. *De Cand. Prod.* 5. *p.* 694.

Hab. California. *Douglas.*—Snake Country. *Mr Tolmie.*

The flowers are white. The upper leaves, peduncles below the capitulum, and involucre, are furnished with a few stipitate black glands among the coarse short bristles, which have been overlooked by De Candolle. There are no paleæ on the receptacle, except those which separate the disk from the ray. De Candolle has inadvertently said, that the achenia of the ray are villous; those of the disk are so, but of the ray glabrous. The name *Blepharipappus* may be retained to *B. scaber,* Hook. The present has quite a different habit, a paleaceous receptacle apparently abortive, florets to the disk, achenia of the ray as well as of the disk villous and crowned with a pappus composed of about fifteen so densely plumose paleæ, that they might almost be termed oblong membranaceous, with a strong midrib, and pectinately divided. The style has two short branches. In the genus *Layia* (*Eriopappus* or *Madaraglossa,*) however, the pappus of the disk consists of 8 or 10 aristæform paleæ, nearly naked at the apex, but plumosely ciliated with long soft hairs at the base, and the branches of the style are long and slender; these last are not included, as De Candolle states, but exserted and recurved.

4. L. *heterotricha.*—Madaraglossa *heterotricha. De Cand. Prod.* 5. *p.* 694. *Hook. Ic. Pl. v.* 4. *t.* 326.

The flowers in the dried plant appear pale yellow, but may have been white, as in the two preceding. The receptacle of the disk is free from paleæ, and the pappus pure white, as in *L. glandulosa.* The achenia of the ray are glabrous; not so, however, those of the disk, as mentioned by De Candolle. These are covered, in the matured fruit sparingly with adpressed greyish hairs.

1. Calycadenia *truncata. De Cand. Prod.* 5. *p.* 695.

2. C. *villosa* (*De Cand. Prod.* 5. *p.* 695)*;* caule stricto pilis albis hirsutulo, foliis inferioribus prope caulis basin approximatis caulinisque linearibus obtuse mucronatis margine revolutis sparsim setoso-ciliatis floralibus hirto-ciliatis apice glandulam calyciformem pedicellatam gerentibus, ramulis floriferis axillaribus brevissimis monocephalis, involucro pilis albis longis hirto squamis acutis.

De Candolle's specimens do not seem to have been so perfect as those before us, which has induced us to give a new specific character.

3. C. *multiglandulosa. De Cand. Prod.* 5. *p.* 695.

4. C. *cephalotes. De Cand. Prod.* 5. *p.* 695.

1. Achyrachæna *mollis. Schauer, del. sem. H. Vrat.* 1837, *p.* 3. *Linnæa* XII. *Litt. p.* 87. *De Cand. Prod.* 7. *p.* 292. *Hook. Ic. Pl.*—Lepidostephanus madioides. *Bartl. ind. sem. Gott.* 1837. *Linnæa* XII. *Litt. p.* 82.

1. Venegasia *carpesioides. De Cand. Prod.* 6. *p.* 43.

1. Monolopia *major. De Cand. Prod.* 5. *p.* 74. *Hook. Ic. Pl. v.* 4. *t.* 344.

The tube of the ray has a small toothed appendage on the opposite side from the ligule, so that the florets may almost be called bilabiate. The involucre is of one piece, and divided scarcely down to the middle.

2. M. *minor. De Cand. Prod.* 5. *p.* 74. *Hook. Ic. Pl. v.* 4. *t.* 343.

The florets of the ray are destitute of the appendage found in the first species, and the involucre is divided to near the base.

1. Tanacetum ? *suaveolens. Hook. Flor. Bor. Am.* 1. *p.* 327. *t.* 110.—T. matricarioides. *Less. Syn. Gen. Compos. p.* 265.—T. pauciflorum. *De Cand.* 6. *p.* 131 (vix *Rich.*). Santolina suaveolens. *Pursh, Fl. Bor. Am.* 2. *p.* 520. *Nutt. Gen.* 2. *p.* 141. *De Cand. Prod.* 6. *p.* 37.—Artemisia matricarioides. *Less. in Linnæa*, 6. *p.* 210.—Cotula matricarioides. *Bong. Veg. Sitch. p.* 29.—Matricaria discoidea. *De Cand. Prod.* 6. *p.* 50.

This was originally found by Lewis on the banks of the Kooskooske River, one of the tributaries of the Columbia ; but it extends to North California on the south, and to Unalaschka on the north. *T. pauciflorum*, Rich., has villous leaves, and appears, from the character given, more allied to *Pyrethrum discoideum*. We are still in doubt about the proper genus to which our plant ought to be referred ; the florets are four-angled, slightly bialate, and usually 4-toothed ; the last character approaches it to *Tanacetum*, in which the same structure is frequently found ; in many particulars it agrees with the *Cotuleæ*, from all which it differs by the conical receptacle. It thus forms a link between several genera. The receptacle, on a more recent examination, is not paleaceous, unless the inner scales of the involucre can be so called.

1. Artemisia *vulgaris. Linn.*

2. A. *pachystachya. De Cand. Prod.* 6. *p.* 114.

3. A. *frigida. Willd. De Cand. Prod.* 6. *p.* 125.

HAB. Snake Country. *Mr Tolmie.*

1. Gnaphalium *decurrens. Ives in Sill. Journ. De Cand. Prod.* 6. *p.* 226. *Hook. et Arn. supra, p.* 151.—G. Californicum. *De Cand. l. c. p.* 224.

We do not see how Mr Douglas' plant, which is quite the same as that we have already noticed in this work, can be satisfactorily distinguished from *G. decurrens.*

2. G. ? *filaginoides;* totum albido-lanatum, caule erecto apice subramoso, foliis linearibus basi attenuatis apice nigro-mucronatis, capitulis ovato-conicis in glomerulos ad dichotomias aut apices ramorum sitos aggregatis, involucri squamis obtusiusculis exterioribus ovatis lanuginosis interioribus ovato-lanceolatis scariosis dorso linea villosa notatis, receptaculo conico papillis cylindricis retusis onusto, acheniis teretiusculis glanduloso-puberulis.

This has quite the appearance of a *Filago*, but the structure of the capitulum is that of *Gnaphalium* in every particular, except as regards the receptacle, which is here conical and densely covered with large cylindrical papillæ that are concave at the apex. The filiform female florets form about two rows, within which are the bisexual ones.

1. Senecio *arnicoides. De Cand. Prod.* 6. *p.* 426.

This we have not seen.

2. S. *Californicus. De Cand. Prod.* 6. *p.* 426.

3. S.? *flocciferus. De Cand. Prod.* 6. *p.* 426.

The flowers are reddish, the ligulate florets appear to be in several rows and gradually to pass into the tubular ones.

4. S. *Douglasii. De Cand. Prod.* 6. *p.* 429.

With this we are unacquainted.

TETRADYMIA. *De Cand.* LAGOTHAMNUS, *Nutt. ms.*

Capitulum homogamum pauciflorum. *Involucri* squamæ subbiseriales, ovali-oblongæ, coriaceo-paleaceæ. *Receptaculum* angustum nudum epaleaceum. *Corollæ* tubulosæ 5-fidæ, lobis linearibus recurvis. *Antheræ* exsertæ ecaudatæ. *Styli* rami teretiusculi apice incrassati cono brevi superati. *Achenia* erostria villosa. *Pappus* corollæ tubum æquans pluriserialis, pilis mollibus basi fragilibus candidissimis spinuloso-denticulatis.—Herbæ *vel* frutices. Caules *folia primaria pedunculi et involucra tomentoso-cana.* Folia *alterna rigide mucronata.* Capitula 5-8 *ad apices caulis vel ramulorum in racemum conferta.* Flosculi "*lutei multo majores quam in* Senecionum *genere ad quod genus nostrum accedit.*"

1. T. *canescens* (*De Cand.*); herbacea, foliis omnibus linearibus planis erectis mucronulo brevi apiculatis cano-tomentosis in axilla nullis, involucro 4-phyllo 4-floro.—*De Cand. in De Less. Ic. Sel.* 4. *t.* 60 (ined.). *Prod.* 6. *p.* 440.—Lagothamnus. *Nutt. Mst. fide herb. Dougl.*

We do not know where Douglas and Nuttall collected their specimens; De Candolle says they are from the Columbia River, but they came to us with plants from California.

2. T. *spinosa;* fruticosa, foliis primariis (seu rameis) tomentosis subteretibus recurvis rigidis spinoso-mucronatis senioribus glabrescentibus omnino spiniformibus, axillaribus fasciculatis carnosulis glabris obtusiusculis, involucro 5-(nunc 4-)phyllo 8-floro.

HAB. Snake Country. *Mr Tolmie.*

1. Centaurea *Melitensis. Linn.*—*De Cand. Prod.* 6. *p.* 593.—C. *apula. Lam.? De Cand. l. c.*—C. Patibilcensis. *De Cand. l. c.*

Between the above three supposed species, as defined by De Candolle, we can perceive no difference. *C. Melitensis* is said to have capitula solitary and tomentose, and the cauline leaves toothed; in *C. apula* the capitula are usually aggregated and glabrous, and the cauline leaves quite entire; while *C. Patibilcensis* has the leaves of the latter and involucres of the former. But from a comparison of specimens, from Europe, the Cape of Good Hope, the Canary Isles, Monte Video, Chili, and California, these characters vary on the same specimen; and we have no doubt whatever that the species has migrated with grain from the south of Europe. De Candolle refers Douglas' plant to his *C. Melitensis*, although the cauline leaves (in our specimen) are quite entire.

1. Acourtia *microcephala. De Cand. Prod.* 7. *p.* 66.

1. Calais *Douglasii* (*De Cand.*)*;* scaposa glabriuscula, foliis lineari-lanceolatis remote pinnatifidis, segmentibus linearibus brevibus, pappi paleis 5 basi dilatatis adpresse villosis sensim in aristam longam acuminatis, acheniis disci adpresse villosis radii ad costas scabris.—*De Cand. Prod.* 7. *p.* 85.

De Candolle refers to this genus the *Hymenomena* of *Hooker Flor. Bor. Am.* The two species, however, which are there described, differ from De Candolle's character, by having the paleæ of the pappus at least twice as numerous, the dilated part at the base not scariose, much smaller and nearly inconspicuous, while the bristle into which it passes is more slender, much longer, and pure white; the involucre, moreover, is decidedly imbricated, like that of *Scorzonera* or *Troximon*, and the achenia short, glabrous, and not attenuated at the apex.

2. C. *linearifolia* (*De Cand.*)*;* subscaposa vel caulescens basi foliosa puberula, foliis linearibus integerrimis vel pinnatifidis laciniis lineari-acuminatis, pappi paleis albis glabris longe scariosis apice bifidis e sinu setam brevem proferentibus, acheniis striatis omnibus glaberrimis muriculatis.—*De Cand. Prod.* 7. *p.* 85 (excl. syn.).—C. Lindleyi. *De Cand. ? l. c.* (excl. syn.).

C. Lindleyi seems merely a cultivated form of this species. In the native specimens the leaves are either quite entire or almost pinnati-partite. The pappus is so different from that of *C. Douglasii*, that we should scarcely have referred the two plants to the same genus; or if they be considered congeners, the character might be so modified as to admit also the two species of the *Flor. Bor. Am.*

1. Macrorhynchus *Lessingii* (*Hook. et Arn.*).—Borkhausia Lessingii. *Hook. et Arn. supra, p.* 145.—Troximon apargioides. *Less.—De Cand. Prod.* 7. *p.* 252.

In addition to the description we have already given in this work, we may state that the achenia are fusiform, deeply striated with ten furrows, the ribs obtuse and not winged; the filiform stipes of the pappus is nearly thrice the length of the achenium, and dilated at the apex into a small disk. The achenia and pappus of the outer and inner florets are precisely alike. Having published our former notice before we were acquainted with Lessing's Synopsis of the genera of this order, we placed this in *Borkhausia;* but now that that genus has been separated into others, the Californian plant must unquestionably be removed to the same as the Chilian species. We may here state, that under the name of *M. Chilensis*, we, in the *Comp. to the Bot. Mag.*, I. *p.* 31, and II. *p.* 42, intended to include all the Chilian species of DC., nor are we yet certain that they are really distinct; but, with reference to Fischer and Meyer, as well as De Candolle, our specimens from Valparaiso (Mathews, No. 306, and Cuming, No. 745), as also from Falkland Island, belong to *M. pterocarpus*, and that from Viña de la Mar, near Valparaiso, marked "Bridges, No. 500," is *M. lævigatus*. As to Bridges' No. 501, the achenia are too young to show whether the costæ ought to be considered alæ or not. In several achenia in Mathews, No. 306, we have observed some of the costæ quite obtuse and corky, while others were alate.

1. Melacothrix *Californica. De Cand. Prod.* 7. *p.* 192.

1. Sonchus? *Californicus;* herbaceus glaber, caule elato fistuloso simpliciter ramoso striato, ramis longiusculis monocephalis, foliis lanceolato-linearibus attenuatis denticulatis, rameis integerrimis, involucro hemispherico, squamis interioribus subæqualibus erectis subbiserialibus, exterioribus minoribus squarroso-patulis, pedunculo apice squamato.

This belongs to the *Lactuceæ*, but the true genus is very uncertain, as we have only seen the immature achenia; these are oblong-cylindrical, striated, and truncated at the apex, without any beak; pappus soft and pure white; hairs linear, apparently in a single series, closely denticulated or almost plumose at the base; flowers purple; capitula, when young, campanulate, afterwards expanding and somewhat hemispherical, never dilated at the base.

ORD. XXXI. LOBELIACEÆ. *Juss.*

1. Clintonia *pulchella* (*Lindl.*); foliis sepalisque obtusis, corollæ laciniis superioribus ovatis acutis divaricatis labelli lacinia intermedia productiore. *Lindl. in Bot. Reg. t.* 1909.

1. Lobelia *carnosula;* nana glaberrima ramosissima diffusa basi subrepens, caulibus exsiccatione alato-marginatis, foliis linearibus integerrimis acutis, pedunculis axillaribus fructiferis patenti-recurvis, pedicello folium superantibus, laciniis calycinis linearibus ovarium corollæque tum æquantibus, capsula oblongo-obovata.

HAB. Blackfoot River, Snake Country. *Mr Tolmie.*

A small tufted plant, with pale blue flowers, evidently growing in very wet muddy places, bearing flowers numerous in proportion to its size, of which the peduncles become more elongated, patent, and at length recurved, as the fruit advances towards maturity. It is somewhat allied to *L. alata*, Labill., but is much smaller.

ORD. XXXII. ERICEÆ. *Juss.*

1. Rhododendron *calendulaceum. Torr. Fl. Un. St.* 1. *p.* 425.—Azalea calendulacea. *Mich.*

The tube of the corolla is scarcely so long as the segments, pubescent, but apparently not at all viscid; stamens much exserted; calyx small, segments oblong, and, together with the pedicels, covered with glandular hairs; ovary and lower part of the style villous. Leaves oblong-obovate, nearly glabrous, deciduous. — The forms of the pentandrous species have been so much multiplied of late years in our gardens, that we scarcely know to what to refer our native specimens, and among others the present is attended with considerable difficulty; we have, however, in the mean time, referred it to *R. calendulaceum.*

1. Arbutus *tomentosa. β. Hook. et Arn. supra, p.* 144. *Hook. Fl. Bor. Am.* 2. *p.* 37. *t.* 130. *f.* 4.

ORD. XXXIII. VACCINEÆ. *De Cand.*

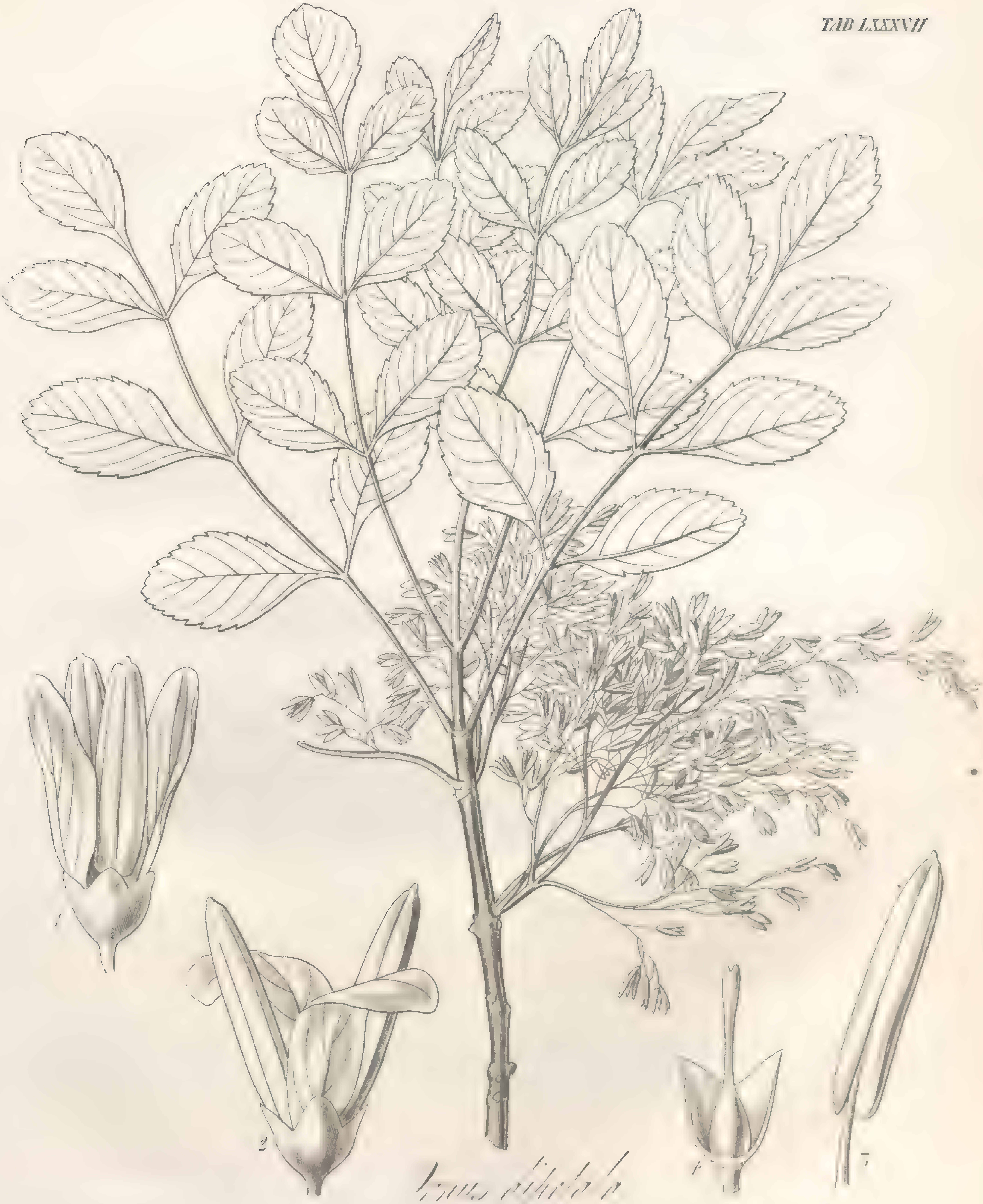
1. Vaccinium *ovatum. Pursh. Hook. et Arn. supra, p.* 144. *Hook. Fl. Bor. Am.* 2. *p.* 34. *Lindl. Bot. Reg. t.* 1354.—*β. angustifolium;* foliis lanceolatis basi acutis.

Both varieties are in this collection.

ORD. XXXIV. JASMINEÆ. *Juss.*

1. Fraxinus (Ornus) *dipetala;* foliis 3-jugis, foliolis ovalibus obtusis acute serratis glabris basi cuneatis, inferioribus in petiolulum longiusculum attenuatis superioribus duobus sessilibus, supremo longe petiolulato, paniculis multifloris longitudine fere foliorum ac infra folio ortis, petalis 2 obovato-oblongis obtusis unguiculatis. (TAB. LXXXVII.)

TAB LXXXVII



Ornus floribunda

This appears to be allied to *F. Schiedianus*, Schlect. in Linn. 6. p. 391, a Mexican plant, but the petals of that species have not yet been observed. In our plant, the anthers are remarkably large, rather longer than the petals, and the filaments are so very short as to be enclosed within the calyx.

Tab. LXXXVII. *Fig.* 1. 2. Flowers; *fig.* 2. Stamen; *fig.* 3. Pistil:—*magnified.*

Ord. XXXV. ASCLEPIADEÆ. *R. Brown.*

1. Asclepias *Mexicana. Cav.? Ic.* 1. *p.* 42. *t.* 58.

Our plant agrees well with Cavanilles' figure, but the flowers have a faint tinge of purple, and are by no means white. The structure of the inflorescence is precisely that of *A. incarnata*; and Douglas found both growing together on the banks of the Walla-wallah. But in this the leaves are always narrow and in fours, while in *A. incarnata* they are opposite and much broader.

2. A. *vestita*; tota arachnoideo-tomentosa, foliis oppositis oblongo-lanceolatis inferioribus acutis superioribus longe acuminatis, umbellis in axillis superioribus breviuscule pedunculatis, corolla calyce pedunculisque albo-lanatis, columna perbrevi, coronæ foliolis erectis late ovatis obtusissimis supra medium biauriculatis cornu subulatum incurvum longe adnatum superantibus.

Ord. XXXVI. GENTIANEÆ. *Juss.*

1. Gentiana *detonsa. Fries.—Griseb. in Hook. Fl. Bor. Am.* 2. *p.* 64. *Id. Gentian. p.* 256 (cum synon.).

1. Erythræa *tricantha* (*Griseb.*); caule adscendenti ramosissimo fastigiato, foliis oblongo-lanceolatis acutiusculis, cymis aggregatis semel-ter-dichotomis, floribus foliis floralibus suffultis, alari subsessili corollæ tubo sub-anthesi calycem fere duplo superante, posthac subæquante, lobis linearibus acuminatissimis. *Griseb. Gen. et Sp. Gent. p.* 146.

2. E. *Muhlenbergii* (*Griseb.*); caule inferne simplici, foliis ovato-oblongis obtusiusculis, cymis laxis semel-ter-dichotomis, floribus lateralibus a foliis summis remotiusculis, alari pedicellato, corollæ tubo sub-anthesi calycem paullo excedente, lobis oblongo-lanceolatis acutiusculis.

E. Centaurium, Beck, from Oswego, is perfectly distinct from this species, and appears to be the true *E. Centaurium.*

Ord. XXXVII. CONVOLVULACEÆ. *Juss.*

1. Calystegia *Soldanella. Br.*—Convolvulus. *L.*

2. C. *subacaulis*; annua humillima pubescenti-sericea, caule perbrevi, foliis longe petiolatis ovato-hastatis obtusis cum mucronulo, pedunculis unifloris axillaribus petiolo duplo brevioribus, sepalis late ovalibus mucronatis bracteas ovales superantibus, corolla campanulato-infundibuliformi.

Flowers in the dry state pale sulphur-coloured, large, and, together with the peduncle, about the height of the foliage.

1. Cuscuta *Californica;* pedunculis unifloris solitariis, sub flore dilatato-infundibuliformi, calycis lobis acutis corolla multo brevioribus, corollæ tenui-membranaceæ tubo brevi, laciniis lanceolato-subulatis elongatis, squamis nullis, staminibus quinque fauci corollæ insertis laciniis dimidio brevioribus, stylis duobus, stigmatibus capitatis.

ORD. XXXVIII. HYDROLEACEÆ.

1. Wigandia? *Californica;* fruticosa gummifera, foliis elliptico-lanceolatis in petiolum brevem attenuatis coriaceis integerrimis supra glabris subtus reticulatis in areolis albo-canescentibus, staminibus inclusis. (TAB. LXXXVIII.)

Different as the present plant appears, at first sight, from the *Wigandia Caracasana* figured in the *Bot. Register, tab.* 1966, yet the inflorescence and the structure of the flowers are so similar, that without mature fruit we dare not venture to separate it. It is quite shrubby, the glabrous stem exuding a gum-resin. Leaves 3-4 inches or more long, alternate, coriaceous, elliptical-lanceolate, tapering gradually into a short petiole, quite entire, above glabrous, rather indistinctly reticulated with depressed veins; below strongly reticulated with prominent veins, which are rendered more conspicuous by the areolæ being filled with very short whitish down. In two or three of the upper leaves, and at the apex of the branch, the small flowers, (scarcely more than half an inch long) are collected into dense capitate circinnate racemes. Corolla infundibuliform, thrice as long as the deeply divided linear-oblong calyx-segments. Stamens included. Filaments unequal, inserted below the middle of the tube, and then decurrent to the base of the tube; the decurrent portion alone slightly hairy. Anthers of two oval cells, not mucronate. Ovary ovate, slightly hairy, with no evident hypogynous disk, 1-celled, with two opposite parietal placentæ $\left(\overset{\perp}{\mathrm{T}}\right)$, resembling two T's, to the free edges of which several ovules are attached, exactly as in *W. Caracasana* (see Dr Lindley's excellent figure above quoted.) Styles 2, nearly as long as the filaments. Stigmas capitate, depressed at the top.

TAB. LXXXVIII. Wigandia? Californica. *Fig.* 1, 2. Flowers; *fig.* 3. Corolla laid open; *fig.* 4. Pistil; *fig.* 5. Section of the ovary:—*magnified.*

ORD. XXXIX. POLEMONIDEÆ. *Juss.*

1. Polemonium *cæruleum. Linn.*—α. *vulgare. Hook. Fl. Bor. Am.* 2. *p.* 71.

HAB. Pine Creek, Snake Country. *Mr Tolmie.*

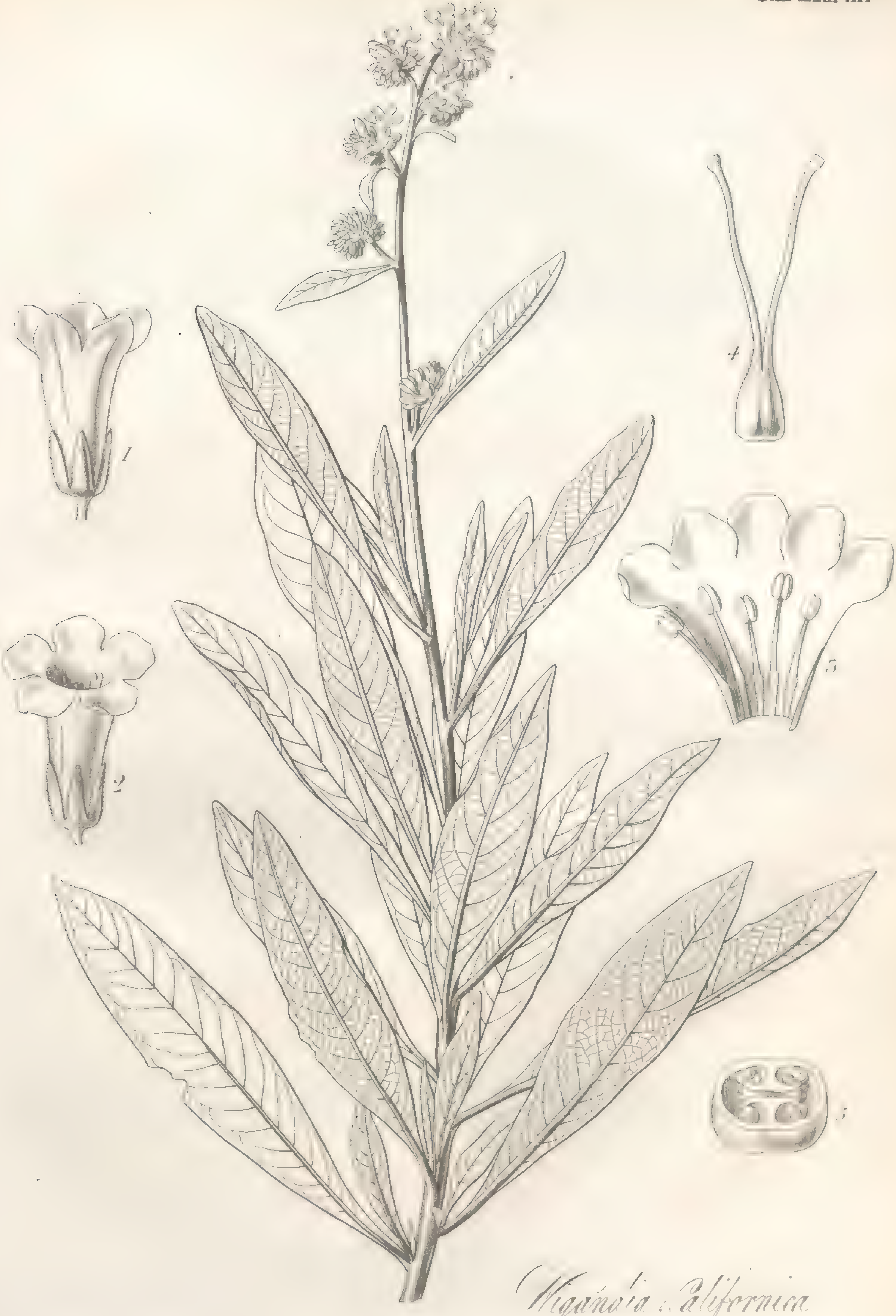
1. Phlox *speciosa. Pursh.*—α. glabriuscula, foliis basi ciliatis. *Hook. Fl. Bor. Am.* 2. *p.* 72.—β. caule foliisque dense pubescentibus. *Hook. l. c.*

HAB. α. Near the Blue Mountains; β. Grand Rond—both in the Snake Country. *Mr Tolmie.*

HUGELIA. *Benth.*

Calyx tubuloso-campanulatus, semi-5-fidus, sinubus vix membranaceis, laciniis subinæqualibus linearibus rigidis subspinosis. *Corolla* infundibuliformis, tubo breviter exserto, limbo 5-partito, laciniis oblongis integerrimis. *Stamina* ad faucem inserta. *Antheræ* lineares, sagittatæ. *Capsulæ* loculi polyspermi.—Herbæ *annuæ vel perennes plus minusve albo-lanatæ.* Folia *alterni-linearia, integra vel pinnatifida.* Flores *dense corymboso-capitati;* calycibus bracteisque *imbricatis lana densa basi immersis. Benth.*

1. H. *densifolia* (*Benth.*); humilis, caule glabriusculo, foliis crebris fere omnibus pinnatifidis glabratis, segmentis utrinque 2-3 acerosis, corollæ (cæruleæ) tubo exserto, staminibus corollam subæquantibus. *Benth. in Bot. Reg. sub folio* 1622; *in Ann. Sc. Nat. N. Ser.* 2. *p.* 84.



Wigandia californica

2. H. *elongata* (*Benth.*); ramis elongatis divaricatis vel procumbentibus tomentosis, foliis brevibus simplicibus vel utrinque segmentis 1-2 auctis omnibus albo-tomentosis vel demum vix glabratis, corollæ (intense cæruleæ) tubo exserto, staminibus corollam superantibus. *Benth. l. c.*

3. H. *virgata* (*Benth.*); erecta stricta, foliis elongatis simplicibus vel pinnatifidis laxe albo-lanatis, corollæ (intense cæruleæ) tubo exserto, staminibus corolla brevioribus. *Benth. l. c. Hook. Ic. Pl.* 2. *t.* 200.

4. H. *lutea* (*Benth.*); erecta, foliis inferioribus elongatis simplicibus glabratis, superioribus abbreviatis pinnatifidis albo-lanatis, corymbis parvis, corollæ (luteæ) tubo incluso, staminibus corollam æquantibus. *Benth. l. c.*

LINANTHUS. *Benth.*

Calyx tubulosus membranaceus, nervis 5 viridibus validis apice in dentes subulatos recurvos productis. *Corolla* infundibuliformis, tubo brevi, limbo 5-fido, laciniis obovatis apice crenulatis. *Stamina* tubo inclusa. *Antheræ* filiformes, basi vix sagittatæ. *Capsulæ* loculi polyspermi.—Herba *annua, glaberrima.* Folia *opposita, sessilia, palmatisecta, segmentis* 3-5, *lineari-subulatis.* Flores *in dichotomiis solitarii, subsessiles, ebracteati, versus apicem ramorum plurimi approximati.* Corollæ *magnitudine et forma et fere colore* Lini suffruticosi.

1. L. *dichotomus. Benth. l. c.*

LEPTOSIPHON. *Benth.*

Calyx tubuloso-campanulatus, æqualis, semi-5-fidus, lobis lineari-subulatis acutis, sinubus membranaceis. *Corolla* infundibuliformis, tubo longe exserto tenuissimo, limbo campanulato 5 fido, lobis ovalibus obtusis integerrimis. *Stamina* ad faucem inserta. *Antheræ* oblongæ basi sagittatæ.—Herbæ *annuæ basi glabræ, apice pubescentes.* Folia *opposita, sessilia, palmatisecta, segmentis linearibus vel subulatis.* Flores *dense corymboso-capitati, axi sublanato.* Bracteæ *imbricatæ foliis conformes, segmentis ciliato-hirsutis. Benth.*

1. L. *grandiflorus* (*Benth.*); subsimplex, foliis 7-11-fidis, laciniis subulatis strictis margine revolutis, corollæ tubo limbo vix duplo longiore, filamentis brevissimis. *Benth. l. c.*

Corolla blue; the orifice of the tube yellow or purple.

2. L. *androsaceus* (*Benth.*); foliis 5-7-fidis, laciniis oblongo-linearibus, corollæ tubo limbo 2-3-plo longiore, staminibus corollæ limbo triplo brevioribus. *Benth. l. c. Bot. Reg. t.* 1710. *Hort. Soc. Trans. N. Ser.* 1. *p.* 477. *t.* 18. *f.* 1.

Corolla smaller and more intensely coloured than the preceding.

3. L. *luteus* (*Benth.*); foliis 5-7-fidis, laciniis oblongo-linearibus, corollæ tubo limbo sub-4-plo longiore, staminibus limbo corollæ sub-3-plo brevioribus, stylo corollam vix æquante. *Benth. l. c.*

Corolla yellow, deeper coloured in the throat.

4. L. *parviflorus* (*Benth.*); foliis 5-7-fidis, laciniis oblongo-linearibus, corollæ tubo

limbo 4-plo longiore, staminibus limbo corollæ vix dimidio brevioribus, stylo subexserto. *Benth. l. c.*

Corolla pale yellow, the throat deep yellow.

5. L.? *densiflorus* (*Benth.*); foliis 9-11-fidis, laciniis subulatis striatis margine revolutis, corollæ tubo limbo breviore. *Benth. l. c. Bot. Reg. t.* 1725. *Hort. Soc. Trans. N. Ser.* 1. *p.* 477. *t.* 18. *f.* 2. *Hook. Bot. Mag. t.* 3587.

FENZLIA. *Benth.* (*non Endl.*)

Calyx tubuloso-campanulatus, profunde 5-fidus, sinubus membranaceis, laciniis linearibus acutiusculis erectis. *Corolla* subinfundibuliformis, tubo brevi, limbo 5-partito, laciniis obovatis dentatis. *Antheræ* ovatæ, sagittatæ, e tubo breviter exsertæ. *Capsulæ* loculi polyspermi.—Herba *pusilla, subsimplex,* 2-3-*pollicaris, glabra vel leviter pubescens.* Folia *opposita, linearia, integerrima.* Flores 1-3, *pedunculati.* Corolla *fere pollicaris, purpurascens, fundo luteo.*

1. F. *dianthiflora. Benth. l. c.—Hook. Ic. Pl.* 2. *t.* 199.

Fenzlia of Mr Bentham was published in 1833; that of Endlicher (*Atakta, p.* 19. *t.* 17 *et* 18) in 1834; so that our plant has the priority of name. It is but fair, however, to observe, that Endlicher considers it only a species of *Gilia* (*Atakta, t.* 29), and has bestowed the name of *Fenzlia* on a genus of New Holland plants, which, with *Olinia* and *Myrrhinium* (Schott), form a small group intermediate between *Memecyleæ* and *Myrtaceæ.*

GILIA. *Cav. Benth. l. c.*

Calyx campanulatus, 5-fidus, margine et sinubus membranaceis. *Corolla* infundibuliformis vel subcampanulata, limbo 5-partito, laciniis obovatis integris. *Stamina* ad faucem vel vix intra tubum inserta. *Antheræ* ovato-subrotundæ. *Capsulæ* loculi polyspermi.—Herbæ. Folia *vel alterna pinnatisecta, segmentis integris dissectisve, vel opposita palmatisecta, segmentis integris subulatis. Benth.*

SECT. 1. DACTYLOPHYLLUM. *Folia inferiora opposita, omnia sessilia palmatisecta. Flores solitarii, longe pedunculati. Corollæ tubus brevissimus, limbus patens.*

1. G. *liniflora* (*Benth.*); foliis inferioribus oppositis omnibus sessilibus palmatisectis, corollis calyce triplo longioribus. *Benth. l. c.*

2. G. *pharnaceoides* (*Benth.*); foliis inferioribus oppositis omnibus sessilibus palmatisectis, corollis calyce duplo longioribus. *Benth. l. c.—Hook. Fl. Bor. Am.* 2. *p.* 74. *t.* 152.

Flowers only half the size of the preceding.

SECT. 2. IPOMOPSIS. *Folia alterna, pinnatisecta, vel pinnatifida. Flores solitarii vel subglomerati. Corollæ tubus elongatus longe exsertus.*

3. G. *pulchella* (*Dougl.*); caulibus strictis superne paniculatis, foliis carnosis arachnoideis pinnatifidis laciniis remotis linearibus planis acutis, corollæ elongatæ tubulosæ limbo patenti-reflexo laciniis ovato-lanceolatis. *Benth. l. c. Hook. Flor. Bor. Am.* 2. *p.* 74. —Ipomopsis elegans. *Lindl. in Bot. Reg. t.* 1281 (*non Sm.*).

HAB. Bannock Defile between Snake and Bear Rivers. *Mr Tolmie.*

4. G. *tenuiflora* (*Benth.*); caule erecto elato superne viscoso subnudo paniculato, foliis

bipinnatisectis glabris, floribus subsolitariis, corymbis laxis longe pedunculatis, corollis (cæruleis) calyce 4-plo longioribus. *Benth. l. c. Lindl. in Bot. Reg. t.* 1888.

5. G. *arenaria* (*Benth.*); caule humili viscoso subnudo, foliis pinnatifidis, lobis ovatis, floribus subglomeratis, corollis (cæruleis) calyce triplo longioribus. *Benth. l. c.*

This we have not received.

Sect. 3. Eugilia. *Folia alterna pinnatifida vel pinnatisecta. Flores subsolitarii vel sæpius glomerati. Corollæ tubus calyce subbrevior.*

6. G. *tricolor* (*Benth.*); caule erecto glabro folioso, foliis bipinnatisectis, segmentis lineari-subulatis, corymbis 3-6-floris virgato-paniculatis, corollis calyce subtriplo longioribus. *Benth. l. c. Bot. Reg. t.* 1704. *Hort. Soc. Trans. N. Ser. p.* 478. *t.* 18. *f.* 3. *Hook. Bot. Mag. t.* 3463.

Tube of the corolla yellow, throat deep purple, limb pale bluish-purple.

7. G. *laciniata* (*Ruiz et Pav.*); caule erecto glanduloso-pubescenti, foliis bipinnatisectis glabriusculis, segmentis linearibus, corymbis paucifloris longissime pedunculatis subpaniculatis, corollis calycem vix duplo superantibus, staminibus corolla brevioribus. *Ruiz et Pav. Fl. Per. et Chil.* 2. *p.* 17. *t.* 123. *Benth. l. c.—Mathews, No.* 246. *Cuming, No.* 729. *Bridges, No.* 213.

8. G. *multicaulis* (*Benth.*); caule erecto parce glanduloso-pubescenti, foliis bipinnatisectis glabriusculis, segmentis linearibus, corymbis subcapitatis 3-18-floris longissime pedunculatis vix paniculatis, corollis calycem vix duplo superantibus, staminibus corollam æquantibus. *Benth. l. c.*

9. G. *achilleæfolia* (*Benth.*); caule erecto puberulo, foliis bi-tripinnatisectis glabriusculis, segmentis radicalium linearibus caulinium linearibus vel lineari-subulatis, corymbis capitatis fasciculatisve solitariis vel subpaniculatis, corollis calyce subtriplo longioribus, staminibus corolla brevioribus. *Benth. l. c. Bot. Reg. t.* 1682. *Hook. in Bot. Mag. t.* 3440.

In the wild plant the flowers are densely capitate, nearly sessile, and the calyx almost woolly; but when cultivated, the former are fascicled and on long pedicels, while the latter are merely pubescent. It therefore becomes a matter of great difficulty to distinguish the present from the two preceding species; and if the relative length of the calyx and corolla, and of the corolla and stamens, prove not constant, we fear that all must be reduced as varieties to *G. laciniata* of Ruiz and Pavon.

NAVARRETIA. *Ruiz et Pav.*—Ægochloa. *Benth. l. c.*

Calyx tubuloso-campanulatus, basi membranaceus, apice 5-fidus, laciniis inæqualibus rigidis integris multifidisve spinosis. *Corolla* subhypocrateriformis, tubo calycem subæquante, limbo 5-partito, laciniis oblongis integris. *Stamina* intra partem superiorem tubi inserta. *Antheræ* ovato-subrotundæ. *Capsulæ* loculi polyspermi.—Herbæ *plerumque glutinosæ fætidæ.* Folia *pinnatisecta, segmentis incisis acutissimis.* Flores *dense capitati, bracteis inciso-multifidis spinosis suffulti. Benth.*

1. N. *intertexta* (*Hook.*); erecta ramosa, foliis glabris pinnatisectis, segmentis lineari-subulatis acutissimis incisis divaricatis subspinosis, calycis sublanati dentibus plerumque

multifidis, corollis calyce subbrevioribus, staminibus exsertis. *Hook. Fl. Bor. Am.* 2. *p.* 75. —Ægochloa intertexta. *Benth. l. c.*

2. N. *cotulæfolia;* erecta stricta, foliis glabris bipinnatisectis, segmentis lineari-subulatis acutissimis foliorum superiorum floraliumque spinosis, bracteis villosulis, dentibus calycinis subintegris, corollis calycem æquantibus, staminibus exsertis.—Ægochloa cotulæfolia. *Benth. l. c.*

3. N. *pubescens;* molliter pubescens, caule ramoso, foliis pinnatisectis, laciniis inciso-pinnatifidis, lobulis divaricatis subspinosis, calycibus bracteisque basi membranaceis glabris apice inciso-pinnatifidis villosis, corollis calyce subduplo longioribus, staminibus e tubo exsertis.—Ægochloa pubescens. *Benth. l. c.*

4. N. *squarrosa;* viscosa-pubescens, foliis pinnatisectis segmentis integris incisisve, laciniis lanceolato-linearibus acutissimis spinosis, bracteis ciliato-hirtis basi dilatatis, dentibus calycinis lanceolatis subintegris, corollis exsertis, staminibus tubo inclusis.—N. pungens. *Hook. Fl. Bor. Am.* 2. *p.* 75.—Gilia pungens. *Dougl. in Bot. Mag. t.* 2977.—G. squarrosa. *Hook. et Arn. supra, p.* 151.—Ægochloa pungens. *Benth. l. c.*—Hoitzia squarrosa. *Eschscholtz* (1826).

5. N. *atractyloides;* viscosissima, foliis pinnatifidis rachi dilatata, lobis subulatis divaricatis spinosis, floralibus ovatis imbricatis spinoso-dentatis flores amplectentibus, dentibus calycinis subulatis integris.—Ægochloa atractyloides. *Benth. l. c.*

COLLOMIA. *Nutt. Benth. l. c.*

Calyx campanulatus 5-fidus vel sub 5-partitus, lobis lanceolatis linearibusve æqualibus integris. *Corolla* hypocrateriformis, tubo tenui exserto, limbo patente 5-partito, laciniis oblongis integris. *Stamina* versus medium tubi inserta. *Antheræ* ovato-subrotundæ. *Capsulæ* loculi 1-2-spermi.—Herbæ. Folia *alterna rarius inferiora opposita integra inciso-dentata vel rarius pinnatifida.* Flores *dense capitati bracteis lato-ovatis integerrimis suffulti. Benth.*

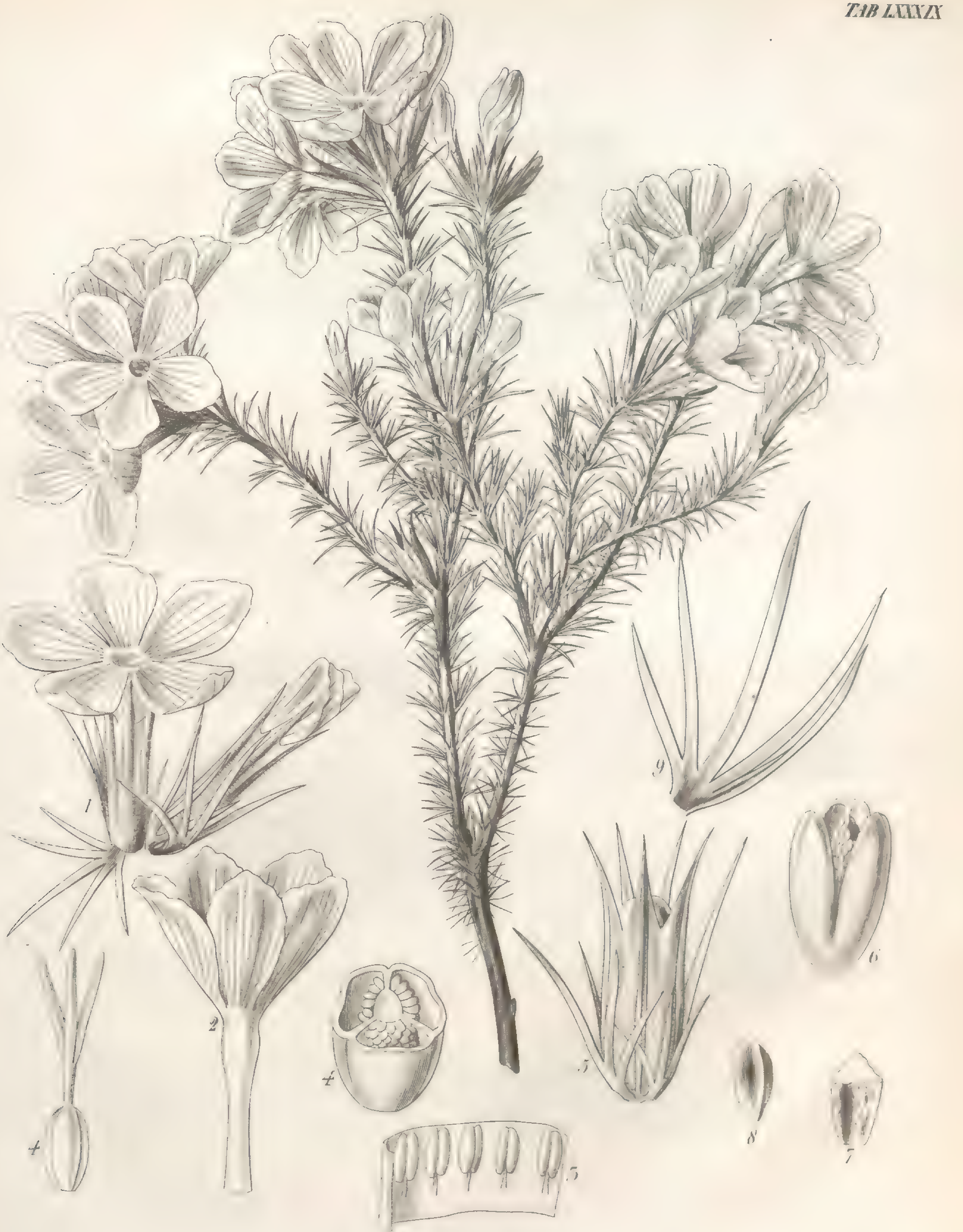
1. C. *gilioides* (*Benth.*); foliis pinnatisectis, segmentis linearibus integris, calycibus profunde 5-fidis, staminibus tubo corollæ inclusis, capsulæ loculis monospermis. *Benth. l. c.*

2. C. *glutinosa* (*Benth.*); procumbens, foliis subpinnatisectis, segmentis oblongo-linearibus integris vel subincisis, calycibus sub-5-partitis, staminibus corolla longioribus, capsulæ loculis monospermis. *Benth. l. c.*

3. C. *linearis* (*Nutt.*); simplex vel ramosa, foliis lineari-lanceolatis lato-lanceolatisve opacis plerumque glabris, ramis superioribus patentissimis pubescentibus, corollæ limbo patente tubo gracillimo triplo breviore. *Benth. l. c. Hook. Flor. Bor. Am.* 2. *p.* 76. *Bot. Reg. t.* 1166. *Bot. Mag. t.* 2924.

HAB. Green River (one of the head waters of the Rio Colorado), Snake Country. *Mr Tolmie.*

4. C. *nudicaulis;* simplex gracilis glaberrima, caule basi bifoliato, foliis minutis squamæformibus (cotyledonum vestigiis?) citissime marcescentibus, floribus subcapitatis, foliis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Leptodactylon Californicum

floralibus e basi lata anguste linearibus obtusis involucratis, corollæ limbi laciniis patentibus obovatis apiculatis tubo gracili duplo brevioribus.

HAB. Green River, Snake Country. *Mr Tolmie.*

5. C. *gracilis* (*Benth.*)*;* glanduloso-pubescens, caule valde ramoso, foliis lineari-oblongis obtusis, calycis segmentis longis subulatis. *Benth. l. c. Hook. Fl. Bor. Am.* 2. *p.* 76.—Gilia gracilis. *Hook. in Bot. Mag. t.* 2924.

LEPTODACTYLON. *Hook. et Arn.*

Calyx tubuloso-campanulatus, subæqualis, semiquinquefidus, lobis subulatis spinescentibus, sinubus membranaceis. *Corolla* infundibuliformis, limbo patente, lobis obovatis obtusis. *Stamina* intra partem superiorem tubi inserta, æqualia. *Antheræ* oblongæ. *Stylus* cum *stigmatibus* tubo corollæ duplo brevior. *Capsula* sublignosa apice dehiscens, loculis polyspermis, columna centrali crassiuscula.—Frutices *humiles, ramosissimi.* Folia *alterna profunde palmatisecta, laciniis subulatis rigidis spinescentibus; alia axillaria, integra, fasciculata.* Flores *terminales, speciosi,* Phlocem *simulantes.*

1. L. *Californicum;* foliis patentibus, floribus subcapitatis, corollæ tubo calycem subæquante, stigmatibus stylo duplo longioribus. (TAB. LXXXIX.)

The corolla is large. Another species of this genus is *Phlox Hookeri,* Dougl. in Hook. Flor. Bor. Am. 2. p. 73. t. 159, which may be distinguished as follows: foliis erectis, floribus subsolitariis, corollæ tubo calycem superante, stigmatibus stylum æquantibus.

TAB. LXXXIX. Leptodactylon Californicum. *Fig.* 1. Flower-bud and flower; *fig.* 2. Corolla; *fig.* 3. Stamens; *fig.* 4. 4. Pistil; *fig.* 5. Capsule enclosed in the calyx; *fig.* 6. Capsule bursting open, and showing the central receptacle with attached sides; *fig.* 7. Seed; *fig.* 8. Portion of the receptacle from which the seeds have been removed; *fig.* 9. Leaf:—*magnified.*

ORD. XL. BORAGINEÆ. *Juss.*

1. Heliotropium *Curassavicum. Linn.—Hook. et Arn. supra, p.* 152. *Hook. Flor. Bor. Am.* 2. *p.* 81.

1. Myosotis *flaccida. Dougl. in Hook. Flor. Bor. Am.* 2. *p.* 82.

Our specimens are more leafy and not so much advanced as those from Columbia; but they appear to be the same species. *M. versicolor,* of the Flor. Bor. Am., with small flowers, seems to be *M. verna* of Nutt., and has its calyx oblique; the larger-flowered specimens are perhaps referrible to *M. flaccida.*

2. M. *muricata;* caule erecto stricto foliisque linearibus obtusis ubique piloso-hispidis, racemis densis bi-trifidis terminalibus ebracteatis, calycibus hispidis, nucibus ovatis obtusiusculis dense muriculatis.

From six inches to a foot high, erect, straight, rather stout, throwing out numerous lateral leafy branches, which, in our specimens, are short, from not being sufficiently developed. Flowers white; limb flat; segments as long as the tube. The hairs on the calyx and raceme are yellowish-white.

3. M. *fulva. Hook. et Arn. supra, p.* 38.—*Hook. Flor. Bor. Am.* 2. *p.* 83.—*Cuming* (*Chil.*) *No.* 707. *Bridges* (*Chil.*) *No.* 309.

The flowers are white; the limb flat and broad; the segments about the length of the tube. The achenia are wrinkled, but not always black, and not in the slightest degree hispid or muricated.

4. M. *Chorisiana. Cham. et Lehm. in Linn.* 4. *p.* 444. *Hook. et Arn. supra, p.* 152. (*non Lehm. in Hook. Fl. Bor. Am.* 2. *p.* 83.)

The flowers here are on pretty long pedicels, while the Columbia plant has them shortly pedicellate; the latter presents, besides, a different aspect, and may be called *M. Scouleri;* it appears very closely allied to *M. Californica,* Fisch. et Meyer, but the corolla is longer than the calyx.

5. M. *glomerata. Nutt.—Hook. Flor. Bor. Am.* 2. *p.* 82. *t.* 162.—Cynoglossum glomeratum. *Fraser. Pursh.*

Hab. Green River, Snake Country. *Mr Tolmie.*

1. Echinospermum *Lappula. Lehm. in Hook. Flor. Bor. Am.* 2. *p.* 84.

Hab. Pine Creek, near Green River, one of the tributaries of the Colorado, Snake Country. *Mr Tolmie.*

1. Lithospermum? *circumscissum;* annuum nanum diffusum ramosum, totum pilis albis rigidis hispidum ad apicem usque foliosum, foliis anguste linearibus, floribus axillaribus, calyce 5-fido basi membranaceo fructifero transversim circumscisso deciduo, corollæ tubo calycem æquante ad faucem nudo, nucibus ovatis acutis nitidissimis lævibus dorso convexis intus subcarinatis.

Hab. Snake Fort, Snake Country. *Mr Tolmie.*

The flowers are very minute, and white with a yellow eye; the calyx is 5-angled; the segments are about as long as the tube, and in fruit are patulous or somewhat recurved; the base of the tube is membranaceous between the ribs or angles, and separates transversely with five teeth. The nuts do not appear to be at all perforated at the base, and are inserted into the bottom of the calyx.

1. Amsinckia *vernicosa;* corolla fauce nuda glabra, limbo tubo triplo breviore, staminibus ad faucem insertis, antheris exsertis, nucibus ovato-oblongis acutis acute triquetris dorso planis lævibus nitidissimis.

This approaches closely to *A. angustifolia,* Lehm. (Fisch. et Mey. Ind. Sem. Hort. Petrop. Secundus, p. 26), but that we believe to be a Chilian species, transmitted by Bertero, and therefore probably the same with Cuming's No. 512, and Bridges' No. 311. In the Chilian plant, the flowers are almost entirely the same as in *A. vernicosa,* but the nuts are ovate, keeled and transversely wrinkled on the back, and all over minutely muricated, the points on the keel and wrinkles being much larger than the others; of this Mathews' No. 193 is perhaps a mere variety, but the leaves are much broader, and, when dry, of a blackish colour. *Lithospermum lycopsoides,* Lehm. in Hook. Flor. Bor. Am. 2. p. 89, is the same with *Amsinckia lycopsoides,* Lehm. Del. Sem. H. Hamb. 1831.

2. A. *spectabilis;* corolla fauce glabra plicis intrusis semiclausa, limbo longitudine tubi, staminibus ad faucem insertis.—Species pulchritudine florum insignis atque distinctissima. Corolla aurea, limbo 6 lin. in diametro, ad faucem plicis 5, squamulas simulantibus. *Fisch. et Mey. Ind. Sem. Hort. Petrop. Secund. p.* 26.

We do not possess the fruit of this species, but in habit it accords with *Amsinckia,* and in specific character with *A. spectabilis,* F. and M. It certainly is an extremely handsome plant, with large yellow flowers; the corollas much exserted, and the calyx thickly clothed with white and golden-coloured hairs. Leaves 2-3 inches long.

The genus *Amsinckia* is not, so far as we know, as yet further characterized, than by having four cotyle-

dons. It was noticed by Lindley in his first edition of the *Introduction to the Natural System*, and called there *Benthamia ;* as however no reasons were assigned for reducing the genus of Richard of that name, Lehman supposed it to be an oversight, and altered it to *Amsinckia*. Since then, Dr Lindley has bestowed the name *Benthamia* on an East Indian plant. This confusion is to be regretted ; and now that Richard's genus has been ascertained to be *Peristylus* of Blume, it were better that *Amsinckia* should bear the appellation originally given to it.

1. Cynoglossum *grande* (*Dougl.*)*;* caule erecto glabro superne nudo, foliis petiolatis subtus pilosis, inferioribus maximis cordato-ovatis undulatis, superioribus oblongo-lanceolatis, racemis ebracteatis glabris pedunculatis paucifloris, calyce villoso.—*Lehm. Pugill.* 2. *p.* 25. *in Hook. Flor. Bor. Am.* 2. *p.* 85.—C. officinale. *Hook. et Arn. supra, p.* 152.

2. C. *penicillatum ;* annuum diffusum multicaule basi ramosum ubique pilis adpressis canescens, foliis remotis anguste linearibus, floribus solitariis in omnibus axillis brevissime pedicellatis, fructus nucibus lineari-oblongis patentissimis per paria subparallelo-approximatis disco planis marginibus membranaceis inflexis nudis apice ciliatis.

This ought, perhaps, to be removed from the genus : it is so extremely allied to *C. lateriflorun*, Lam., or *C. lineare*, Ruiz et Pav. (Mathews, No. 332, Bridges, No. 253, and Cuming, No. 721), that it can only be distinguished by a close examination of the nuts, which, in the Chilian plant, are pectinately toothed all round the margin. Lehman places this last in *Rindera*, an arrangement to which we can scarcely assent. Another plant of the same group is *C. pilosum*, Ruiz et Pav. (Mathews, No. 989, and Cuming, No. 1070).

ORD. XLI. HYDROPHYLLEÆ. *R. Brown. Benth. in Linn. Soc. Trans.* 17. *p.* 272.

HYDROPHYLLUM. *Linn. Benth. l. c.*

Squamæ corollinæ 5, lineares, dorso adnatæ, apice marginibusque liberæ. *Stamina* longe exserta. *Placentæ* maximæ, dorso liberæ, ovarium implentes, 2-ovulatæ.—Folia *radicalia numerosa ; caulina pauca alterna lata pinnatim vel palmatim dissecta.* Racemi *scorpioideo-dichotomi vel capitati, ebracteati.*

1. H. *capitatum* (*Dougl.*) *;* foliis pinnatisectis, segmentis inciso-dentatis subtus canescentibus, floribus dense capitatis, laciniis calycinis lanceolato-linearibus ciliato-hispidis. —*Benth. in Linn. Soc. Trans.* 17. *p.* 273. *Hook. Flor. Bor. Am.* 2. *p.* 78.

The Californian specimens have quite a different appearance from those gathered at Fort Vancouver ; both are canescent on the under side of the leaves, from the presence of adpressed white rather soft hairs ; but these are much more numerous in the Californian form than in the other. The hairs on the branches and petioles are whitish and somewhat soft to the touch. In *H. macrophyllum* (Nutt. Indig. Pl. Un. St. p. 111), which Mr Bentham seems to think may be the same, the hairs on the stem, branches, and petioles, are longer and much more harsh ; the under side of the leaves is only sprinkled with a few bristly hairs, and these exist chiefly on the nerves and veins ; the flowers are either capitate (as in a specimen from Drummond found in the Alleghanies) or they form a corymbose compact cyme (as in the specimens from Dr Short), with the pedicels thick and stout, and shorter than the calyx ; divisions of the calyx attenuated from a broad ovate base. Nuttall's species approaches, in some respects, to *H. Virginicum*, but that has a loose dichotomous inflorescence, with slender pedicels that are often longer than the calyx ; the calyx-segments narrow-linear ; and the stem is much more free from hairs, often nearly quite glabrous.

ELLISIA. *Linn.—Benth. l. c.*

Calyces exappendiculati. *Squamæ corollinæ* 10, breves, vel nullæ. *Stamina* corolla subbreviora. *Placentæ* maximæ, dorso liberæ, ovarium implentes, 2-ovulatæ.—Folia *pinnatim dissecta, inferiora opposita.* Pedunculi *inferiores oppositifolii, superiores in racemo laxo unilaterali simplici dispositi.*

1. E. *membranacea* (*Benth.*); glaberrima, petiolis exappendiculatis, foliis pinnatifidis segmentis integerrimis, calycibus vix auctis. *Benth. l. c. p.* 274.

Mr Bentham describes the lobes of the leaves as broadly lanceolate, but in all our specimens they are broadly linear and obtuse.

2. E. *chrysanthemifolia* (*Benth.*); hispido-scabra, petiolis basi auriculato-dilatatis, foliis subbipinnatifidis, lobis inciso-dentatis obtusis, calycibus fructiferis parum auctis. *Benth. l. c. p.* 274.

NEMOPHILA. *Barton. Benth. l. c.*

Calycis sinus dentibus reflexis appendiculati. *Squamæ corollinæ* 10, breves, vel nullæ. *Stamina* corolla subbreviora. *Placentæ* maximæ, dorso liberæ, ovarium implentes, 2-12-ovulatæ.—Herbæ *annuæ diffusæ fragiles.* Folia *inferiora opposita, omnia pinnatifida.* Pedunculi *nunc axillares, uniflori, nunc pauces ad apices ramorum in racemis brevibus dispositi. Benth.*

1. N. *parviflora* (*Dougl.*); foliis pinnatifidis, lobis paucis latis subdentatis, calycis sinubus brevissime appendiculatis, corollis calycem vix superantibus, placentis 2-ovulatis. *Benth. l. c. p.* 275.

HAB. California. *Mr Menzies.*

2. N. *pedunculata* (*Dougl.*); foliis pinnatifidis, lobis paucis latis subintegerrimis, calycis sinubus brevissime appendiculatis, corollis calycem vix superantibus, placentis 6-ovulatis. *Benth. l. c.*

In the Columbia plant, the leaves are almost as broad as in *N. parviflora*; in that from California they are narrower, the lobes shorter, more distant from each other, and quite entire. The calycine appendages are so very minute as not to be detected without careful examination.

3. N. *aurita* (*Lindl.*); petiolis basi auriculato-dilatatis, calycis sinuum appendiculis elongatis, corollis calyce duplo longioribus, placentis 2-ovulatis. *Benth. l. c.*

4. N. *Menziesii* (*Hook. et Arn.*); petiolis exappendiculatis, foliis pinnatifidis, segmentis approximatis ovatis integerrimis vel bi-tridentato-lobatis, pedunculis oppositifoliis elongatis, corollæ (cæruleæ parce nigro-punctatæ) rotatæ fundo pilosæ laciniis obovatis calyce subduplo longioribus, placentis sub-10-ovulatis.—α. corollæ calycem vix duplo superante.—N. Menziesii. *Hook. et Arn. supra, p.* 152. *Benth. l. c. p.* 276.—β. corolla calycem plus duplo superante.—N. insignis. *Dougl. ms. Benth. l. c. p.* 276 (excl. syn.). *Hort. Soc. Trans. N. Ser.* 1. *p.* 643. *Lindl. in Bot. Reg. t.* 1713. *Hook. in Bot. Mag. t.* 3485.

Our first variety has the flowers considerably smaller than β., as small indeed as in *N. atomaria*, Fisch. et Meyer, Ind. Sem. Hort. Petr. 2. p. 43 (Lindl. in Bot. Reg. t. 1940), but the flowers of the latter are white, and strongly marked with numerous dull lead-blue specks, and therein seems to lie the principal difference between the two species. Dr Lindley states that in *N. atomaria* the peduncles are hairy, and in *N. insignis* glabrous; but in our specimens of the latter, the peduncles vary from almost glabrous to perfectly hairy. We fear that the two species ought to be united. *N. phacelioides*, of the Bot. Reg. t. 740, appears to us a large cultivated form of the true *N. phacelioides* of Barton.

EUTOCA. *R. Br.*

Corolla decidua. *Ovarium* ovoideo-globosum, piloso-hispidum. *Placentæ* lineares, dorso parietibus ovarii adnatæ, 4-multi-ovulatæ. *Capsula* dissepimentis incompletis, semi-bilocularis.—Herbæ *annuæ? sæpius erectæ, habitu* Phaceliæ, *rarius diffusæ vel divaricatæ.* Flores *racemosi densi sessiles, vel laxi pedunculati, cymis unilateralibus simplicibus vel dichotomis. Benth.*

1. E. *Douglasii* (*Benth.*)*;* diffusa, foliis omnibus pinnatifidis, lobis ovatis subintegerrimis, placentis 12-20-ovulatis. *Benth. l. c. p.* 276.

2. E. *brachyloba* (*Benth.*)*;* erecta scabro-pubescens, foliis elongatis pinnatifidis, lobis ovatis obtusis subincisis, placentis 6-8-ovulatis. *Benth. l. c.*

3. E. *loasæfolia* (*Benth.*)*;* erecta hispidissima, foliis ovatis pinnatifidis, lobis latis acutis inciso-dentatis, corollis calycem vix excedentibus, staminibus exsertis, placentis 6-8-ovulatis. *Benth. l. c. p.* 277.

4. E. *Franklinii* (*Brown*)*;* foliis pinnatifidis bipinnatifidisve pilosis, laciniis lanceolatis integerrimis dentatisve ciliatis, spicis racemosis in summo caulis confertis, staminibus corolla sublongioribus, placentis multiovulatis.—*Brown App. to Frank. Jour. ed.* 2. *p.* 51. *t.* 27. *Hook. Bot. Mag. t.* 2985. *Flor. Bor. Am.* 2. *p.* 79. *Benth. l. c.*

HAB. Pine Creek, Snake Country. *Mr Tolmie.*

5. E. *Menziesii* (*Benth.*)*;* erecta, foliis linearibus lanceolatisve integerrimis quandoque trifidis pinnatifidisve, placentis 20-multi-ovulatis. *Benth. l. c.*

6. E. *grandiflora* (*Benth.*)*;* adscendens, foliis lato-ovatis dentatis basi subcordatis, placentis ultra 50-ovulatis. *Benth. l. c. p.* 278.

7. E. *viscida* (*Benth.*)*;* glanduloso-pilosa viscosa, caule erecto ramoso, foliis cordato-ovatis subangulatis serratis, racemis elongatis furcatis simplicibusque, placentis multi-ovulatis. *Benth. in Bot. Reg. t.* 1808. *Hook. in Bot. Mag. t.* 3572. *Don in Sweet Br. Fl. Gard. N. S. t.* 368.

8. E. *divaricata* (*Benth.*)*;* diffusa ramosissima, caule dichotomo-divaricato, foliis ovatis indivisis radicalibus nunc trifidis, placentis 8-20-ovulatis. *Benth. l. c. p.* 278.—*Bot. Reg. t.* 1784. *Bot. Mag. t.* 3706.—E. Wrangeliana. *Fisch. et Mey. Ind. Sem. Hort. Petr.* 2. *p.* 37. *Sweet Br. Fl. Gard. N. S. t.* 362.

9. E. *phacelioides* (*Benth.*)*;* erecta ramosa, foliis omnibus ovatis indivisis integerrimis, placentis 4-ovulatis. *Benth. l. c. p.* 279.

10. E.? *lutea;* nana diffusa scabro-pubescens ramosa, radice multicipiti annua, foliis petiolatis subrotundo-obovatis basi cuneatis crenato-lobatis superioribus subintegerrimis, ovariis 8-ovulatis, corolla campanulata marcescente persistente (lutea) calycem paullo superante.

HAB. Snake Fort, Snake Country. *Mr Tolmie.*

This is a very remarkable species, having bright yellow flowers. The seeds are deeply wrinkled on the back. It differs from *Eutoca* by the persistent but marcescent corolla; and from *Emmenanthe* by its habit and absence of scales to the corolla.

11. E.? *aretioides;* nana diffusa hispido-pilosa trichotome ramosa, radice multicipiti annua, foliis petiolatis spathulato-lanceolatis basi longe attenuatis integerrimis, ramulis ultimis brevibus congestis, floribus sessilibus terminalibus et in dichotomiis, calycis profunde 5-partiti laciniis anguste linearibus hispidis tubo corollæ infundibuliformis (purpureæ) duplo brevioribus, ovario multiovulato.—var. β. *perpusilla;* caule subnullo paucifloro.

Hab. α. Between Burnt and Malheur Rivers.—β. Burnt River, Snake Country. *Mr Tolmie.*

This beautiful species will probably yet be separated from *Eutoca*, to which it bears no external resemblance; but we have placed it here as agreeing almost entirely with Bentham's character of the genus.

PHACELIA. *Juss. Benth. l. c.*

Corolla decidua. *Ovarium* ovoideo-globosum, piloso-hispidum. *Placentæ* lineares, sæpius dorso parietibus ovarii adnatæ, 2-ovulatæ. *Capsula* dissepimentis subcompletis pseudo-bilocularis.—Herbæ *annuæ vel perennes, erectæ vel diffusæ.* Flores *racemosi, densi, sessiles vel laxi pedunculati, cymis unilateralibus simplicibus vel dichotomis. Benth.*

1. P. *circinnata* (*Jacq.*); foliis pinnatisectis quandoque indivisis, lobis oblongis ovatisve integerrimis inæqualibus, corollis calyce plus dimidio longioribus, staminibus exsertis. *Benth. l. c. p.* 279.

Mr Bentham adduces the following synonyms to this species:—*Heliotropium pinnatum*, Vahl.—*Hydrophyllum Magellanicum*, Lam.; *H. Aldea*, Rœm. et Schult.—*Aldea pinnata*, Ruiz et Pav.; *A. circinnata*, Willd.—*Phacelia Peruviana*, Spreng.; *P. Californica*, Cham.; *P. heterophylla*, Pursh; *P. rudis*, Dougl.

2. P. *ciliata* (*Benth.*); scabro-pubescens, foliis pinnatisectis, segmentis oblongis obtusis subpinnatifidis, calycis laciniis ovatis submembranaceis reticulatis margine ciliatis, staminibus corollam subæquantibus. *Benth. l. c. p.* 280.

3. P. *ramosissima* (*Dougl.*); scabro-pubescens vel hispida, foliis pinnatisectis, segmentis ovatis obtusis subpinnatifidis, calycis laciniis oblongis viridibus hispidis fructiferis spathulatis, staminibus exsertis. *Benth. l. c. p.* 280.

We have an allied species, or perhaps a mere variety, from Dr Gillies, under the name of *P. Brunoniana*, collected on El Cerro del Diamante and Andes of Mendoza, and it only differs by being more covered with glutinous hairs, and having a nearly simple stem.

4. P. *tanacetifolia* (*Benth.*); scabro-pubescens vel hispida, foliis bipinnatifidis, segmentis oblongis dentato-pinnatifidis, calycis laciniis oblongo-linearibus hispidis, staminibus exsertis. *Benth. l. c. Lindl. in Bot. Reg. t.* 1696.

A closely allied species has been sent us by Mr Darwin, who found it at Bahia Blanca, on the coast of Patagonia (No. 202), but the hairs on its stem are all glutinous.

EMMENANTHE. *Benth. l. c.*

Corolla persistens. *Ovarium* oblongo-compressum, glanduloso-pubescens: placentis linearibus, dorso adnatis

(8-) ovulatis. *Capsula* dissepimentis semi-completis ad axin incrassatis pseudo-bilocularis.—Herba *erecta ramosa.* Folia *alterna pinnatifida, semiamplexicaulia, exauriculata.* Racemi *numerosi erecti graciles.* Flores *penduli, tenuiter pedicellati.* Corolla *campanulata, squamis* 10 *minutis ad basin.*

1. E. *penduliflora. Benth. l. c. p.* 281.

The genus *Emmenanthus*, supra, p. 217, was named and described long before the present one of Mr Bentham, but as it was not published till after his was, it must receive a new appellation.

Ord. XLII. SOLANEÆ. *Juss.*

1. Nicotiana *rustica. Linn.*

1. Solanum *nigrum. Linn.—var.* pubescens. *Hook. et Arn. supra, p.* 152.

2. S. *umbelliferum. Escholtz in Linnæa,* 3. *Litter. p.* 148. *Hook. et Arn. supra, p.* 152.

Of this plant we have two forms, the one three times the size of the other in all its parts, more succulent and tomentose. The lesser one has wiry branches, with the angles on them more conspicuous from the tomentum being nearly absent.

Ord. XLIII. SCROPHULARINEÆ.

1. Linaria *Canadensis. Spr.*—Antirrhinum Canadense. *Linn.*

1. Antirrhinum *glandulosum* (*Benth.*)*;* undique pilis capitatis subviscidis conspersum, foliis alternis petiolatis anguste ovato-lanceolatis, racemo denso folioso, calycis lobis lineari-lanceolatis inæqualibus. *Lindl. in Bot. Reg. t.* 1893.

1. Maurandia (?) *stricta;* erecta ramosa annua glabra basi solummodo pubescens, foliis infimis parvis ovatis petiolatis, reliquis lanceolatis linearibusque sessilibus omnibus integerrimis, pedunculis solitariis axillaribus unifloris elongatis recurvis apice sursim curvatis.

A foot to a foot and a half high, slender, branched, annual; the lower leaves small (½ an inch long), ovate, petiolate, gradually becoming more and more remote, upwards on the stem lanceolate or the superior ones linear, all entire. Peduncle from the axils of the narrow upper leaves, 2-4 inches long, at first reflexed, then towards the apex bent upwards. Flower scarcely an inch long. Calyx gibbous below, of 5 deep lanceolate segments, curved up a little, nearly equal. Cor. ovate-oblong, also curved upwards, the limb 2-lipped. Capsule globose, terminated by a moderately long tapering style, and that by a capitate stigma. Cells 2. Seeds attached to each side of a central dissepiment.

A singular looking plant, which, from the withered state of the flowers, we are unable satisfactorily to refer to any known genus. The general form of the blossoms, however, the long curiously curved peduncle, destitute of bracteas, the shape of the calyx, of the capsule, and style, are quite those of *Maurandia*, but the stems are not scandent, and the leaves (except those near the root) are very narrow, lanceolate or linear.

1. Collinsia *bicolor* (*Benth.*)*;* foliis ovato-lanceolatis serratis basi subcordatis, nervis subparallelis, verticillis (infimis exceptis) aphyllis, calycis laciniis ovatis acuminatis.—*Benth. in Hort. Soc. Trans. N. Ser.* 1. *p.* 480. *Lindl. in Bot. Reg. t.* 1734. *Hook. in Bot. Mag. t.* 3488.

2. C. *parviflora* (*Lindl.*); caule glabriusculo prostrato adscendente vel erecto, foliis oblongo-lanceolatis integris vel paucidentatis infimis ovatis petiolatis, pedunculis axillaribus solitariis flore multo longioribus, corollæ calycem pubescentem subæquantes vel paullo superantes laciniis integris subacutis.—*Lindl. in Bot. Reg. t.* 1082. *Hook. Fl. Bor. Am.* 2. *p.* 94.

Hab. Between Bruneau and Onyhee Rivers, Snake Country. *Mr Tolmie.*—California. *Mr Douglas.*

1. Salpiglossis *prostrata. Hook. et Arn. supra, p.* 153.

The plant before us may prove a distinct species; it is not prostrate, has apparently an annual root, and a few short ascending simple stems; we incline, however, to think that the specimens being in a younger state may cause these differences. Bentham has remarked, in the *Bot. Reg.*, under t. 1882, that this and some others from the West Coast of America, will probably form a new genus.

1. Pentstemon *cordifolius* (*Benth.*); caule pruinoso, foliis breviter petiolatis lato-ovatis obtusis integerrimis basi cordatis bullatis subtus nervosis, panicula laxa, corollis tubulosis profunde bilabiatis, labio superiore emarginato inferiore trifido, filamento sterili barbato, antheris glabris. *Benth. Scroph. Ind. p.* 7.

2. P. *staticifolius* (*Lindl.*); caule adscendente pubescente, foliis radicalibus oblongo-lanceolatis in petiolum longum angustatis integerrimis glabris, caulinis sessilibus cordato-ovatis dentatis pubescentibus, cymis subsessilibus calycibusque tomentosis, corollæ ventricosæ pubescentis labiorum laciniis ovatis obtusis subæqualibus. *Lindl. in Bot. Reg. t.* 1770.

With this we are wholly unacquainted, except from Mr Lindley's figure and description; we fear that it was sent from Columbia, and that it is a mere variety of *P. glandulosus. Dougl.*

3. P. *breviflorus* (*Lindl.*); annuus, foliis lanceolatis serratis glabris summis sessilibus, panicula laxa brachiata, calyce pubescenti, corollæ labio superiore lineari arcuato emarginato villoso inferiore deflexo 3-partito tubo calyce breviore, staminibus fertilibus basi villosis, sterili glabro. *Lindl. in Bot. Reg. t.* 1946.

4. P. *heterophyllus* (*Lindl.*); suffruticosus, foliis glaucescentibus integerrimis inferioribus lineari-lanceolatis superioribus linearibus, racemo virgato, pedicellis subflore bibracteolatis, sepalis ovatis, corolla glaberrima superne ventricosa imberbi, stamine sterili glabro, antheris sagittatis apice fimbriatis.—α. sepalis ovatis acuminatis.—*Lindl. in Bot. Reg. t.* 1899.—β. sepalis orbiculari-ovatis cuspidatis.

The leaves, as in almost all the species, are broader below; but since these pass, by insensible gradations, into the linear ones at the top of the stem, we scarcely think the specific name appropriate.

5. P. *laricifolius*; perennis cæspitosus humilis glaucescens glaberrimus, foliis angustissime linearibus obtusiusculis integerrimis nitidis ad caulium basin dense congestis superioribus remotiusculis, racemis foliosis, pedicellis folio florali brevioribus supra basin bibracteolatis, sepalis ovatis acuminatis margine membranaceis, corolla glaberrima superne ventricosa labio inferiore ad faucem piloso, stamine sterili piloso, antheræ loculis divaricatis glaberrimis.

Hab. Snake Fort, Snake Country. *Mr Tolmie.*

6. P. *procerus. Dougl. in Bot. Mag. t.* 2954. *Hook. Flor. Bor. Am.* 2. *p.* 97.

Hab. Common throughout the Blue Mountains, Snake Country. *Mr Tolmie.*

1. Chelone *centranthifolia* (*Benth.*); glaberrima glauca, foliis ovato-lanceolatis integerrimis basi cordato-amplexicaulibus, panicula elongata, corollis tubulosis pendulis glabris fauce nudis, filamento quinto imberbi. *Benth. in Hort. Soc. Trans. N. S.* 1. *p.* 481. *Bot. Reg. t.* 1737.

1. Herpestes (Matourea) *pilosa* (*Benth.*); erecta viscosa mollissime piloso-lanata, foliis sessilibus oblongis subintegerrimis, pedunculis folio brevioribus solitariis ebracteatis, sepalo externo late ovato, (corollæ labio superiore subintegro, capsulæ acuminatæ valvulis integris).—*Benth. in Comp. Bot. Mag.* 2. *p.* 57.

The capsule is oblong and acuminated, splitting at the apex into two quite entire valves, the margins of which do not appear to be at all inflexed.

1. Mimulus *linearis* (*Benth.*); suffruticosus viscosissimus, caule erecto ramoso, foliis linearibus integerrimis margine revolutis, pedunculis subracemosis, calycibus elongatis plicatis, dentibus lanceolato-linearibus obtusis inæqualibus. *Benth. Scroph. Ind. p.* 27.—M. glutinosus. *Hook. et Arn. supra, p.* 152 (excl. syn.).—Diplacus leptanthus. *Nutt. in Tayl. Ann. Nat. Hist.* 1. *p.* 138.

2. M. *glutinosus* (*Wendl.?*); suffruticosus viscosus, caule erecto pubescente, foliis supra glabris oblongis lanceolatisve basi angustatis eroso-dentatis integerrimisve, pedunculis folio brevioribus, calycibus elongatis plicatis dentibus lanceolato-linearibus inæqualibus. *Benth. Scroph. Ind. p.* 28.

Mr Douglas' specimen has the peduncle slender and rather longer than the calyx, in which respect it differs from *Diplacus latifolius*, Nutt. l. c.; but as the *M. glutinosus* of our gardens (*M. aurantiacus* of the Bot. Mag. t. 354), varies much in this respect, it is probable that Nuttall's plant is a mere form of our present one.

3. M. *brevipes* (*Benth.*); pubescens, caule erecto viscoso, foliis oblongo-lanceolatis linearibusve subdentatis basi angustatis subsessilibus vel superioribus amplexicaulibus, floribus brevi-pedunculatis, calycibus ovatis plicatis hinc fissis, dentibus lanceolatis inæqualibus. *Benth. l. c.*

4. M. *cardinalis* (*Dougl.*); villosus, foliis amplexicaulibus ovatis margine eroso-dentatis, pedunculis folio longioribus, calycibus amplis inflato-tubulosis vix plicatis, dentibus ovatis acutis, antheris villosis. *Benth. l. c.*—*Sweet Br. Fl. Gard. N. S.* 4. *t.* 358. *Hook. in Bot. Mag. t.* 3560. *Lindl. in Hort. Soc. Trans. N. S.* 2. *p.* 70. *t.* 3.

5. M. *lyratus* (*Benth.*); basi glaber apice pubescens, viscosus, foliis eroso-dentatis inferioribus sublyratis petiolatis superioribus cordato-amplexicaulibus, calycibus ovatis fructiferis inflato-campanulatis ore patulo, dentibus ovatis acutis supremo maximo, corolla calycem duplo superante. *Benth. l. c.*—M. guttatus. *Hook. et Arn. supra, p.* 152 (*ex parte*).

Mr Bentham says that (all ?) the leaves are cordato-amplexicaul, but our specimens we can only distinguish from *M. guttatus* by their being pubescent towards the extremity, and somewhat viscous, with the calyx less inflated and not contracted at the mouth.

6. M. *guttatus* (*De Cand.*); glaber, foliis eroso-dentatis inferioribus petiolatis sublyratis superioribus rotundatis cordato-amplexicaulibus, calycibus ovatis fructiferis inflatis ore contracto, dentibus ovatis supremo latissimo, corolla calycem duplo superante. *Benth. l. c. Hook. et Arn. supra, p.* 152 (*ex parte*).—M. luteus. *Pursh.—Bot. Mag. t.* 1501.

7. M. *floribundus* (*Dougl.*); diffusus laxe pilosus viscosus, foliis petiolatis lato-ovatis subdentatis basi truncatis rotundatisve, calyce (parvo) ovato tubuloso subæqualiter truncato brevissime et acute dentato. *Benth. l. c. p.* 29. *Lindl. Bot. Reg. t.* 1125.

We have not received this from Douglas, but Mr Bentham mentions it as having been found by him in California.

8. M. *nanus*; annuus puberulus, caule perbrevi paucifloro, foliis spathulato-ovatis subintegerrimis nervosis, calyce fere sessili oblongo 5-costato ore obliquo breviter 5-dentato, corolla (purpurea) calycem 2-4 plo superante basi longe attenuata, capsula chartacea oblongo-lineari calycem superante. *Hook. Ic. Pl. ined.*—*α. pluriflorus*; corollæ tubo calycem duplo superante.—*β. subuniflorus*; corollæ tubo calycem 3-4 plo superante.

A beautiful dwarf species, the length of the flower in β (1½ to 2 inches), in almost every instance, exceeding that of the stem. The corolla is attenuated below into a long and slender almost colourless tube, the upper part deep purple. Upper lip much larger and longer than the lower one. Style almost the length of the corolla. Stigma bilamellate. Stamens didynamous, each part cruciately approximated and cohering. The capsule agrees in the form with *Diplacus*, Nutt., but is not woody as in that subgenus; although the dehiscence and placenta resemble it more than a true *Mimulus*.

1. Veronica *serpyllifolia*. *Linn.—Hook. Flor. Bor. Am.* 2. *p.* 101.

Hab. Between Henry's and Smith's Rivers, Snake Country. *Mr Tolmie.*

1. Orthocarpus *pusillus* (*Benth.*); humilis ramosissimus glabriusculus, foliis apice multifidis laciniis divaricatis setaceis, dentibus calycinis linearibus viridibus corollam subæquantibus. *Benth. Scroph. Ind. p.* 12.

2. O. *gracilis* (*Benth.*); caulibus numerosis ramosissimis apice pubescentibus, foliis apice multifidis laciniis divaricatis lineari-subulatis, dentibus calycinis lanceolato-subulatis acutissimis vix coloratis, corollæ (purpurascentis?) tubo exserto pubescente, staminibus galea brevioribus. *Benth. l. c.*

In this the lower lip is 3-dentate at the apex; it is also 3-lobed, each lobe being saccate or forming a little inflated bag. On account of this structure, it ought perhaps to be placed in the genus *Triphysa* of Fischer and Meyer, but the lower lip is only lobed, not tripartite as described, perhaps inadvertently, by these botanists.

3. O. *floribundus* (*Benth.*); glabriusculus ramosissimus, foliis apice pinnatifidis laciniis linearibus divaricatis, dentibus calycinis linearibus viridibus, corollæ (luteæ) tubo subexserto glabro, antheris exsertis. *Benth. l. c.*

This we have not seen.

4. O. *erianthus* (*Benth.*); basi pubescens apice tomentosus ramosissimus, foliis apice multifidis laciniis lineari-setaceis divaricatis, calycibus tomentosis dentibus lanceolatis acutissimis viridibus, corollæ (luteæ) tubo longe exserto tomentoso, antheris galea brevioribus. *Benth. l. c.*

The upper lip of the corolla is purple and subulate; the lower exhibits the same structure we have observed in *O. gracilis*, but it is wider, the lateral lobes being more divaricated.

5. O. *densiflorus* (*Benth.*); glabriusculus ramosissimus, foliis apice trifidis laciniis linearibus, spicis densis imbricatis (flavescentibus), laciniis calycinis lineari-subulatis subcoloratis corollæ pubescentis tubum æquantibus, staminibus galea brevioribus. *Benth. l. c. p.* 13.—Castilleja ambigua. *Hook. et Arn. supra, p.* 154.

The lower lip of the corolla has three subulate processes or teeth at the apex; it is 3-lobed, the lobes concave and slightly saccate, thus intermediate between the structure of *Triphysa* and the true *Orthocarpi*.

6. O. *purpurascens* (*Benth.*); ramosissimus piloso-hirtus, foliis pinnato-multifidis laciniis linearibus divaricatis, spicis densis imbricatis (purpurascentibus), laciniis calycinis bractearumque lineari-spathulatis apice coloratis corollæ pubescentis tubum æquantibus. *Benth. l. c.*

Lower lip sharply 3-toothed at the apex, the lateral lobes slightly concave, the middle one saccate near the apex.

7. O. *Tolmiei*; puberulus, caule stricto (sæpius e basi) ramoso, foliis lineari-acuminatis integris, floribus breviter spicatis, bracteis divaricato-trifidis corollam superantibus laciniis linearibus, dentibus calycinis lanceolatis acuminatis tubo membranaceo subduplo brevioribus viridibus, corolla (lutea) glabra, tubo longe exserto, labio superiore apice uncinato inferiorem trilobum erectum adpressum paullo superante.

Hab. Between Henry's and Smith's Rivers, Snake Country. *Mr Tolmie.*

This is so closely allied to *O. strictus* that we at first proposed to unite it as a variety. The leaves, however, are always entire and narrower, the spikes shorter, the whole plant smaller and rather puberulous than hispid, the calyx-lobes longer, and the upper lip of the corolla narrower and hooked at the apex, and slightly longer than the lower. Like it, the flowers are yellow, the tube of the calyx membranaceous, and the lower lip erect and close pressed to the upper, as in *Melampyrum*.

8. O. *lithospermoides* (*Benth.*); erectus durus ramosus basi pubescens apice hispidus, foliis trinerviis apice inferioribus integris superioribus 3-5-fidis laciniis lanceolatis, spicis densis flavescentibus hispidis, dentibus calycinis lanceolato-linearibus flavescentibus hispidis tubo corollæ glabriusculo brevioribus. *Benth. l. c.*

The lower lip of the corolla has precisely the structure of that of *O. erianthus*.

9. O. *castillejoides* (*Benth.*); humilis pilosiusculus, foliis oblongis superioribus cuneatis breviter trifidis, floribus laxe spicatis, calycibus tubulosis dentibus brevibus viridibus, corollæ (purpurascentis) tubo breviter exserto. *Benth. l. c.*

This we have not seen.

1. Castilleja *purpurea. Nutt. in Trans. Am. Phil. Soc.* 5. *p.* 180.

Our specimen, for we have seen but one from Mr Douglas, has smaller and brighter red flowers than in that we have obtained from Nuttall himself, but in almost all other respects they seem to agree.

2. C. *hispida. Benth. in Hook. Fl. Bor. Am.* 2. *p.* 105?

HAB. Bruneau, Snake Country. *Mr Tolmie.*

The height of our plant is, according to Mr Tolmie, one to three feet. The leaves are divided as in *C. coccinea*, but the calycine segments are ovate-oblong, almost like those of *C. septentrionalis*. It is hispid, as the original *C. hispida*, but the calycine lobes are shorter, not oblong-linear, as in *C. pallida*. The flowers and bracteas appear to have been red.

3. C. *septentrionalis. Kunth.—Benth. in Hook. Fl. Bor. Am.* 2. *p.* 105.

This Californian plant may perhaps be very different. The lobes of the calyx are broader and shorter than in North American specimens; the bracteas and calyx, although pale, have a tinge of red, and may have been deep red when fresh; the leaves on the young branches are linear and obtuse; those on the stem, at the origin of the branches, trifid to about the middle, their segments linear and obtuse; bracteas (at least the lower ones) cuneate and trifid; flowers subsessile. The habit is somewhat that of *C. lithospermoides*.

4. C. *affinis. Hook. et Arn. supra, p.* 154.

5. C. *latifolia. Hook. et Arn. supra, p.* 154.—C. macrocarpa. *Benth. Scroph. Ind. p.* 13.

The upper lip of the corolla is shortly exserted beyond the calyx.

6. C. *foliolosa. Hook. et Arn. supra, p.* 154.

Our original form of this plant has the leaves approximated, the axils bearing tufts of similar leaves, so that the whole merited well the name we gave. But in Douglas' collection are specimens of two other varieties or forms, which assume a considerably different appearance. The first of these has the leaves twice the length of Beechey's specimens, and their secondary leaves in the axils are very small and few. The second has the primary leaves still larger, less tomentose, and sometimes trifid to beyond the middle; the secondary leaves are copious, as in Beechey's plant; the spike is partly in fruit, and much more elongated and lax than in the other specimens. In Beechey's and the last mentioned form, the stems seem decidedly woody, in the other one somewhat herbaceous; so that we have no doubt but the above different appearances arise from the plants having been in different stages of growth, and from the specimens having been taken, in the one case, from the old branches, in the other from the young shoots.

ADENOSTEGIA. *Benth. in Lindl. Nat. Syst. p.* 445.

Calyx bifidus. *Corollæ* labia subæqualia, superius oblongum galeatum erectum breviter bifidum. *Stamina* didynama. *Antherarum* loculi disjuncti altero medifixo terminali, altero filamento infra affixo.—Herba *tenuiter glanduloso-pubescens.* Folia *anguste linearia, sæpius trifida.* Flores *ad apices ramorum paucis capitatis,* bracteis *adpressis trifidis obtusis glandulosis ciliatis,* calycinis lobis *integris acutis corollam subsuperantibus,* filamentis antheris*que villosis.* Capsula Castilleja *et* Orthocarpi, *quibus generibus* Adenostegia *affinis est. Benth. l. c.*

1. A. *rigida. Benth. l. c.*—A. filifolia. *Benth. ms. in Herb. Hook.*

1. Pedicularis (Edentula) *densiflora* (*Benth.*); erecta elata glabra, foliis amplis profunde pinnatifidis pinnatisectisve segmentis ovato-oblongis pinnatifidis, laciniis oblongis

inciso-dentatis, spica dense multiflora, calyce inæqualiter 5-dentato, corollæ galea recta obtusa antice hiante, labio minimo. *Benth. in Hook. Flor. Bor. Am.* 1. *p.* 110.

There is also a variety of this, if not a distinct species, in the collection, which differs by the whole plant not being more than six inches high, while *P. densiflora* is at least a foot and a half; the leaves are proportionately smaller; the stem is hirsutely pubescent, not glabrous.

2. P. (Rostrata) *surrecta* (*Benth.*); erecta glabra, foliis pinnatisectis segmentis lanceolato-linearibus subcartilagineo-serratis, spicis elongatis multifloris, calycibus tubulosis 5-dentatis, dente supremo minore lateralibus altius crenatis, corollæ galea fornicata calycem subduplo superante in rostrum subulatum surrectum calycem plus triplo superantem desinente. *Benth. in Hook. Flor. Bor. Am.* 2. *p.* 107.

Hab. Swamp at Green River, one of the head-waters of the Rio Colorado. *Mr. Tolmie.*

Ord. XLIV. LABIATÆ. *Juss.*

1. Salvia (Echinosphace) *carduacea* (*Benth.*); caule herbaceo erecto subsimplici albolanato, foliis petiolatis oblongis pinnatifidis subtus laxe lanatis, lobis ovatis sinuato-dentatis, dentibus spinoso-acuminatis, floralibus bracteisque imbricatis spinosissimis, verticillastris remotis dense multifloris, calycibus inflatis lanatis, labio superiore elongato tridentato inferiore bifido dentibus omnibus spinosis, corollæ tubo subincluso labii inferioris lobo medio fimbriato, connectivis postice liberis antheræ loculum subcassum ferentibus. *Benth. Lab. p.* 202.

2. S. (Pycnosphace) *columbariæ* (*Benth.*); herbacea erecta parum ramosa, foliis profunde pinnatifidis rugosis glabriusculis, lobis oblongo-linearibus obtusis eroso-dentatis incisisve, extremo vix latiore, floralibus bracteæformibus, verticillastris solitariis binisve dense multifloris hemisphæricis, bracteis lato-ovatis membranaceis acuminatis imbricatis, calycis ovati pubescentis labio superiore elongato concavo breviter tridentato, inferiore breviter bifido, corollæ tubo incluso, labii inferioris lobo medio crenulato, connectivis postice liberis subporrectis antheræ loculum cassum ferentibus. *Benth. Lab. p.* 202.

AUDIBERTIA. *Benth.*

Calyx ovatus, bilabiatus, labio superiore concavo integro vel breviter tridentato, inferiore bifido, intus fauce nuda. *Corolla* tubo calycem æquante vel exserto, limbo bilabiato, labio superiore bifido lobis patentibus, inferiore trifido lobis lateralibus ovatis oblongisve patentibus, medio latissimo emarginato. *Stamina fertilia* duo (inferiora) adscendentia, sæpius exserta, superiorum rudimenta parva claviformia vel nulla. *Anthera* dimidiatæ, connectivo lineari in filamentum articulato adscendente, apice antheram linearem unilocularem ferente postice non producto vel brevissime acuminato. *Stylus* breviter subulato-bifidus. *Benth.*

1. A. *grandiflora* (*Benth.*); caule elato villoso, foliis oblongo-ellipticis sinuato-crenatis basi cordatis rugosis, verticillastris densis multifloris, bracteis lato-ovatis calycibusque amplis membranaceis coloratis villosis, staminibus longe exsertis. *Benth. Lab. p.* 313.

2. A. *humilis*; suffruticosa, foliis ad basin caulis approximatis petiolatis oblongo-lan-

ceolatis obtusis crenulatis basi longe angustatis rugosis canescentibus, floralibus bracteisque lanceolatis acutis villosis, genitalibus exsertis. *Benth. Lab. p.* 313.

3. A. *stachyoides;* suffruticosa, ramis rigidis foliosis, foliis breviter petiolatis oblongo-lanceolatis obtusis crenulatis basi angustatis rugosis subtus canescentibus, floralibus bracteisque ovatis acuminatis, genitalibus corolla subbrevioribus. *Benth. Lab. p.* 313.

4. A. *nivea;* suffruticosa, ramis rigidis superne niveo-tomentosis, foliis subsessilibus lanceolatis obtusis basi rotundatis rugosis utrinque niveo-tomentosis, floralibus bracteisque ovato-lanceolatis, racemo simplici, genitalibus exsertis. *Benth. Lab. p.* 313.

5. A. *polystachya;* suffruticosa cano-tomentosa, foliis petiolatis oblongo-lanceolatis obtusis crenulatis, basi angustatis rugosis utrinque incanis, floralibus bracteisque laxis lanceolatis, racemulis numerosis in paniculam elongatam densam approximatis, genitalibus longe exsertis. *Benth. Lab. p.* 314.

MONARDELLA. *Benth.*

Calyx ovato-tubulosus, sæpe elongatus, 10-13-nervius, 5-dentatus, dentibus brevibus subæqualibus rectis, fauce intus nuda. *Corolla* tubo calycem æquante vel breviter exserto, fauce intus glabra, limbo subbilabiato, labio superiore bifido, inferiore trifido, lobis omnibus oblongis linearibusve planis subæqualibus. *Stamina* 4, subæqualia, vel inferiora longiora, recta, divergentia, exserta. *Antheræ* biloculares, loculis parallelis, demum divergentibus vel divaricatis. *Stylus* apice brevissime bifidus, stigmatibus minutis. *Achenia* sicca.—Herbæ *perennes.* Verticillastri *magni subglobosi, bracteis latis suffulti, solitarii, terminales. Benth.*

1. M. *undulata;* caule basi procumbente, ramis adscendentibus, foliis oblongo-linearibus obtusis margine undulato-crispis basi in petiolum brevem angustatis utrinque viridibus glabris, verticillastris dense globosis magnis solitariis, bracteis exterioribus lato-ovatis acutis membranaceis muticis, calycibus tubulosis elongatis subæqualiter dentatis muticis. *Benth. Lab. p.* 332.

2. M. *Douglasii;* caule basi procumbente, foliis petiolatis lanceolatis linearibusve utrinque angustatis viridibus pubescentibus, verticillastris dense globosis magnis solitariis, bracteis exterioribus ovato-lanceolatis calyces superantibus aristato-acuminatis, calycibus ovato-tubulosis inflatis villosis dentibus subæqualibus aristatis. *Benth. Lab. p.* 333.

1. Micromeria *Douglasii. Benth. Lab. p.* 372.—Thymus Douglasii. *Benth. in Linn. v.* 6. *p.* 80.—T. Chamissonis. *Id. l. c. Hook. et Arn. supra, p.* 155.

POGOGYNE.

Calyx sub 15-nervius, campanulatus, striatus, dentibus rectis lanceolatis, 2 inferioribus 3 superiores duplo superantibus, fauce intus nuda. *Corolla* tubo exserto recto intus nudo, bilabiata, labio superiore erecto subplano integro, inferiore patente trifido, lobis planis integris. *Stamina* 4, didynama, inferioribus longioribus, adscendentia, apice approximata. *Antheræ* biloculares, loculis parallelis distinctis muticis. *Stylus* villosus, apice bifidus, lobis subulatis æqualibus apice stigmatiferis.—Herbæ. Verticillastri *ad apices ramorum dense spicati, foliis floralibus, bracteis, calycibusque pilis longis albidis ciliatis. Benth.*

1. P. *Douglasii;* foliis floralibus bracteisque flores superantibus, staminibus corolla brevioribus, dentibus calycinis inferioribus tubo plus duplo longioribus. *Benth. Lab. p.* 414.

2. P. *multiflora;* foliis floralibus bracteisque corolla brevioribus, staminibus exsertis. *Benth. Lab. p.* 414.

3. P. *parviflora;* foliis floralibus flores superantibus, staminibus corolla brevioribus, dentibus calycinis inferioribus vix tubo longioribus. *Benth. Lab. p.* 414.

1. Scutellaria (Sect. Galericularia) *tuberosa;* caule humili simplici erecto villoso, foliis petiolatis lato-ovatis obtusis grosse crenatis basi rotundato-truncatis, floralibus oblongis omnibus utrinque villosis, floribus axillaribus oppositis secundis, corollis villosis calyce plus quadruplo longioribus. *Benth. Lab. p.* 442.

1. Stachys *ajugoides. Benth. in Linn. v.* 6. *p.* 80. *Hook. et Arn. supra, p.* 155.

1. Sphacele *calycina;* suffruticosa? ramis molliter villosis, foliis petiolatis ovato-oblongis basi rotundatis subrugosis villosis, racemis subsimplicibus secundis, verticillastris bifloris remotis, calycibus amplis villosissimis, corollis amplis calyces breviter superantibus. *Benth. Lab. p.* 568.

1. Marrubium *vulgare. Linn. Sp. Pl. p.* 816.—M. hamatum. *Humb. et Kunth, Nov. Gen. et Sp. v.* 2. *p.* 310.—M. Germanicum. *Steud. Nom. Bot. p.* 510.

1. Trichostemma (Sect. Orthopodium) *lanatum;* foliis linearibus margine revolutis, floribus racemosis lanatis, calycibus subæqualiter 5-fidis, corollæ tubo longe exserto. *Benth. Lab. p.* 659.

2. T. (Orthopodium) *lanceolatum;* villosum, foliis lanceolatis, cymis axillaribus, calycibus subæqualiter 5-fidis, corollæ tubo exserto. *Benth. Lab. p.* 659.

ORD. XLV. VERBENACEÆ. *Juss.*

1. Verbena *lasiostachys. Link?—Hook. et Arn. supra, p.* 156.

Although a less diffuse specimen than that which we characterized in Captain Beechey's collection, the two are precisely the same species.

ORD. XLVI. PRIMULACEÆ. *Vent.*

1. Anagallis *arvensis. L.*

This is the common red-flowered variety.

1. Dodecatheon *integrifolium. Mich.—Hook. Fl. Bor. Am. v.* 2. *p.* 119. *Bot. Mag. t.* 3622.—*α.* tubo stamineo flavo. *Hook. Fl. Bor. Am. l. c.*—*γ.* tubo stamineo atro-purpureo. *Hook. Flor. Bor. Am. l. c.*

α. Grand Rond in the Snake Country. *Tolmie.*—*γ. Douglas.*—In the *Flor. Bor. Am.* the character of *var. γ.* was made to depend on the much greater breadth of the leaves, as well as upon the different colour

of the staminal tube ; in our present individual the leaves do not materially differ, nor do we find any other difference from *α.*, except that the bracteas of the involucre are larger and almost foliaceous.

1. Glaux *maritima? L.*

A singular state of this plant, as it appears to us, without flowers, with small imperfect leaves, and with the stem singularly inflated at the joints, is in Mr Douglas' collection.

ORD. XLVII. PLANTAGINEÆ. *Juss.*

1. Plantago *gnaphalioides. Nutt. Gen. Am.* 1. *p.* 100. *Hook. Fl. Bor. Am. v.* 2. *p.* 124. —P. lagopus. *Ph.* (*non Linn.*).

ORD. XLVIII. NYCTAGINEÆ. *Juss.*

1. Abronia *mellifera. Dougl. in Bot. Mag. t.* 2879. *Hook. Fl. Bor. Am. v.* 2. *p.* 125.

2. A. *arenaria. Menz.—Hook. Ex. Fl. t.* 193. *Fl. Bor. Am.* 2. *p.* 125.

Found in California first by *Mr Menzies.*

1. Chenopodium? *spinosum. Hook. Fl. Bor. Am. v.* 2. *p.* 127.

North California. *Douglas.* 1826.

ORD. XLIX. POLYGONEÆ. *Juss.*

ERIOGONUM. *Mich.*

Involucrum tubulosum, campanulatum v. cyathiforme, vix angulatum, subæqualiter 6-dentatum, multiflorum. *Receptaculum* bracteolis intra pedicellos instructum. *Perianthia* exserta, profunde 6-fida. *Benth. in Linn. Trans. v.* 17. *p.* 407.

§ FASCICULATA. *Benth.*

1. E. *parvifolium* (*Sm. in Rees' Cycl.*) *;* fruticulosum, foliis brevissime petiolatis ovatis margine revolutis undulatis subtus lanatis, involucris sublanatis. *Benth. l. c. p.* 411. *Hook. et Arn. supra, p.* 158.

Upper California. *Menzies. Douglas.*

Folia $\frac{1}{4}$-$\frac{1}{2}$ pollicaria, basi truncata vel subcordata. *Pedunculi* omnes simplices vel terminalis ramosus. *Capitula* pauca lateralia et terminalia, fructifera rubescentia. *Bracteæ* sub capitulo paucæ, parvæ, ovatæ vel oblongæ. *Involucra* in capitulo plurima, sessilia, tubuloso-campanulata. *Bracteolæ* intra involucrum plumosæ. *Perianthii laciniæ* inter se subæquales. *Benth.*

2. E. *fasciculatum* (*Benth.*)*;* fruticulosum, foliis oblongo-ellipticis linearibusve basi angustatis margine revolutis glabris vel subtus tenuiter albo-tomentosis, involucris glabriusculis. *Benth. l. c. p.* 411.

Upper California. *Menzies. Douglas.*

Folia $\frac{1}{2}$-$\frac{3}{4}$-pollicaria, demum glabra. *Pedunculi* longiores quam in *E. parvifolio,* terminalis sæpissime umbellifer, radiis 2-3 inæqualiter elongatis, 1-2 brevissimis vel uno alterove intra radios sessilibus. *Bracteæ* sub capitulis numerosæ, oblongo-lineares. *Bracteolæ* intra involucra minutissimæ. *Involucra* et *flores E. parvifolii. Benth.*

§ § LATIFOLIA. *Benth.*

3. E. *oblongifolium* (*Benth.*); foliis oblongo-ovatis basi angustato-rotundatis supra villosulis subtus albo-lanatis, petiolis basi dilatatis nudis, capitulis lateralibus terminalibusque, involucris in capitulo 3-6 sessilibus campanulatis glabris vel apice vix lanatis multifloris. *Benth. l. c. p.* 412.

Ab *E. latifolio* diversum videtur foliorum forma, involucris minoribus fere glabris et bracteolis brevioribus vix plumosis. Pedunculi rarissime simplices sæpius apice umbellati.

4. E. *latifolium* (*Sm. in Rees' Cycl.*); foliis ovatis basi rotundatis vel subcordatis supra arachnoideo-subtus dense lanatis, petiolis basi dilatatis nudis, capitulis in pedunculo solitariis vel paucis, involucris in capitulo 2-6 sessilibus campanulatis lanatis multifloris, bracteolis demum exsertis dense plumosis. *Benth. l. c. p.* 412.—E. arachnoideum, *Esch. in Mem. Acad. Sc. Petrop. v.* 10.

Habitus ut in speciebus affinibus valde variabilis, sed (præter foliorum forma) involucris albo-lanatis et bracteolis longis rufo-plumosis facile recognoscendum, pedunculi etiam sæpius breviores simplices et capitula majora. Exemplaria Escholtziana non diversa videntur a Menziesianis.

5. E. *auriculatum* (*Benth.*); foliis ovatis margine undulatis basi rotundatis vel subcordatis crassiusculis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, petiolis basi sæpius auriculato-dilatatis, ramis pedunculi glaucescentis pluribus rigidis, capitulis lateralibus terminalibusque, involucris in capitulo 3-4 sessilibus campanulatis glabris. *Benth. l. c. p.* 412.

Ab *E. latifolio* differt imprimis pedunculo elatiore ramosiore glaucescente nec ad ramificationes lanato, ramis crassioribus rigidioribus, capitulis minoribus lana fere omnino destitutis. Bracteolæ breviter plumosæ.

6. E. *nudum* (*Dougl. mss.*); foliis ovatis margine undulatis basi rotundatis vel subcordatis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, pedunculo 2-3-chotome paniculato, capitulis lateralibus terminalibusque, involucris in capitulo 1-3 sessilibus tubuloso-campanulatis glabris, bracteolis vix plumosis. *Benth. l. c. p.* 413.—E. arachnoideum, *Hook. et Arn. Bot. Beech. Voy. p.* 158. (*non. Eschs.*)

Ab *E. latifolio* differt glabritie et inflorescentia. *Bracteæ* sub involucris et ramificationibus breves, ovatæ. *Involucri* dentes breves obtusi. *Bracteolæ* setaceæ, vix exsertæ. *Perianthii laciniæ* subæquales.

7. E. *vimineum* (*Dougl. mss.*); annuum, foliis subradicalibus petiolatis ovatis subtus tomentosis, pedunculis scapiformibus divaricato-ramosissimis apice involucrisque glaberrimis. *Benth. l. c. p.* 416.

Pedunculi scapiformes, complures, basi sublanati, erecti, 6-8 pollicares. *Rami* tenues virgati. *Involucra* tenuia, cylindrica, sessilia, dentibus brevibus obtusis subæqualibus. *Perianthia* breviter exserta, laciniæ exteriores per anthesin patulæ, obovatæ, interiores erectæ dimidio angustiores.

§ § § STIPULATA. *Folia caulina nuda ramorum floralium stipulata. Benth.*

8. E. *angulosum* (*Benth.*); ramis floriferis erectis dichotomis vel verticillatim ramosis

foliosis, foliis inferioribus alternis petiolatis exstipulatis, ramorum floralium oppositis verticillatisve basi stipulatis, omnibus oblongo-linearibus subtus vel utrinque lanuginosis demum ramisque glabratis, involucris numerosis parvis pedicellatis hemisphæricis glabriusculis. *Benth. l. c. p.* 406. *tab.* 18, *f.* 1.

CHORIZANTHE. *R. Br.*

Involucrum tubulosum, triangulare, uniflorum, sexdentatum, dentibus nunc inæqualibus, 3 (angulorum) longioribus extimo longissimo, nunc subæqualibus. *Perianthium* involucro inclusum vel vix exsertum. *Benth.*

1. C. *staticoides* (*Benth.*); annua, foliis radicalibus petiolatis spathulatis hirsutis, caulibus subnudis erectis 2-3-chotome ramosis, cymis laxe corymboso-paniculatis, involucris glabriusculis, dentibus inæqualibus subulato-cristatis. *Benth. l. c. p.* 418.

Habitu ad *Staticem oleæfoliam* vel fere *S. aristatam* refert. *Folia radicalia* rosulata. *Caules* semipedales, ad dichotomias articulati, bracteas 2-3 breves verticillatas gerentes. *Involucra* fructifera aucta, dentibus valde inæqualibus. *Perianthium* brevissime pedicellatum, laciniæ exteriores lanceolatæ, interiores majores obovatæ.

2. C. *Douglasii* (*Benth.*); annua, caule erecto 2-3-chotome ramoso, foliis radicalibus petiolatis spathulatis, caulinis oblongo-linearibus ramisque subsericeo-pilosis, cymis multifloris in capitulo terminali paniculato condensatis, involucris pilosis, dentibus patentibus, basi membranaceo-dilatatis apice inæqualiter subulato-aristatis. *Benth. l. c. p.* 419.

Herba semipedalis. *Capitula* florum magnitudine pisi majoris. *Bracteæ* subulatæ dentesque involucri purpurascentes. *Perianthium* subsessile; laciniæ omnes æquales, oblongo-cuneatæ, apice truncatæ mucronulatæ.

3. C. *membranacea* (*Benth.*); annua, caule erecto subdichotome ramoso, foliis linearibus ramisque laxe lanatis, cymis multifloris in capitulis terminalibus subpaniculatis condensatis, involucris tomentosis infundibuliformibus, limbo membranaceo-dilatato, dentibus æqualibus breviter subulato-aristatis. *Benth. l. c. p.* 419. *tab.* 17, *f.* 11.

Herba subpedalis. *Lana caulis* et *foliorum* nivea, tenuis, subdecidua. *Capitula florum* globosa, fructifera iis Scabiosarum nonnullarum similia. *Pedicelli* perianthio æquilongi.

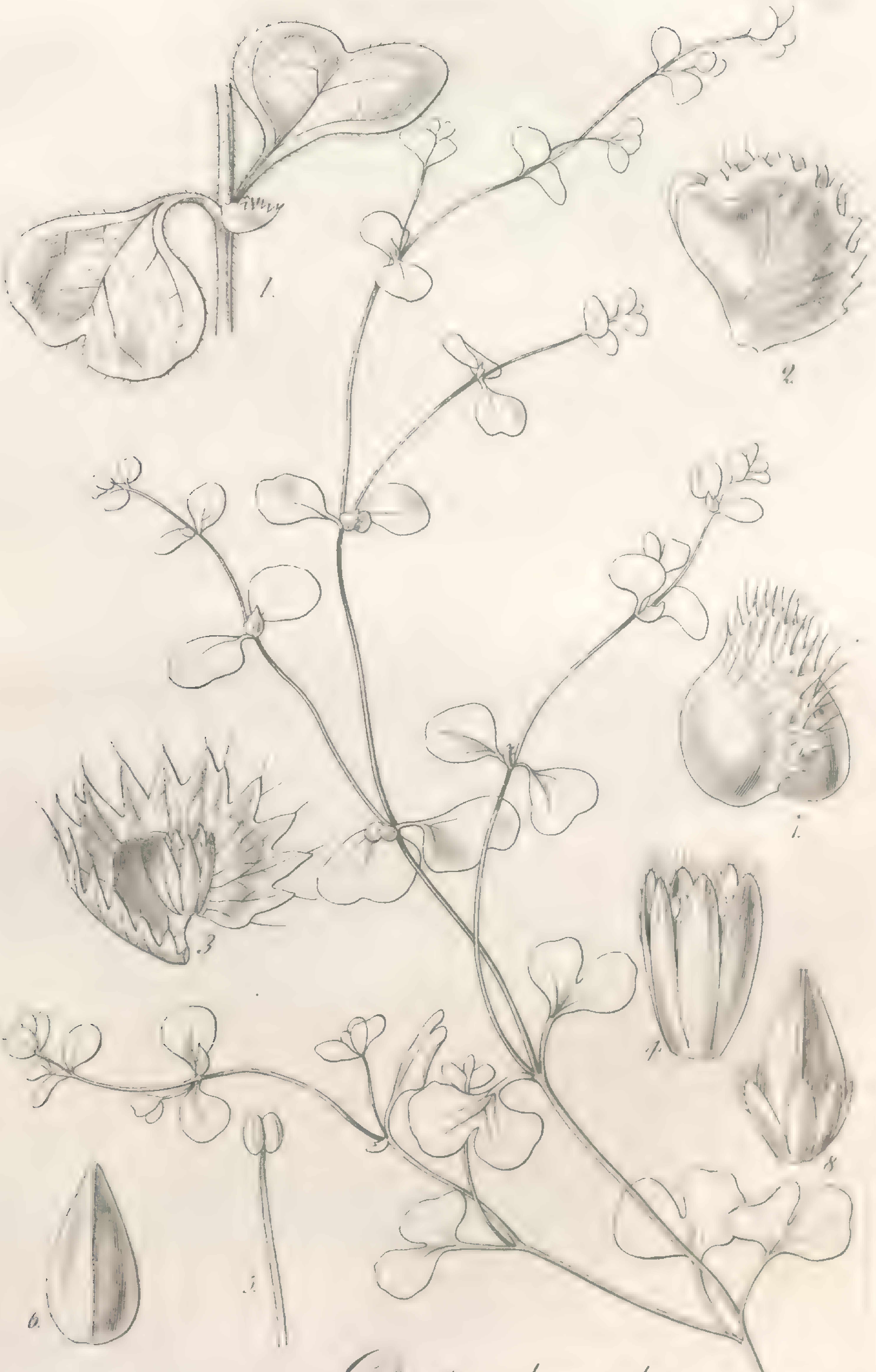
4. C. *pungens* (*Benth.*); subherbacea, ramis elongatis diffusis subdichotomis, foliis petiolatis spathulatis ramisque pilosis, cymis multifloris laxe capitatis, capitulis irregulariter paniculatis, involucris pubescentibus, dentibus inæqualibus bracteisque longe subulato-aristatis. *Benth. l. c. p.* 419. *tab.* 19, *f.* 2.

Herba perennis videtur. *Rami* sesquipedales, pilis mollibus patentibus villosi. *Capitula* secus ramos numerosa, multiflora, breviter pedunculata. *Involucri* dentes exteriores uti bracteæ pungentes. *Perianthium* subsessile laciniis æqualibus.

MUCRONEA. *Benth.*

Involucrum tubulosum, compressum, uniflorum, bidentatum. *Perianthium* involucro inclusum. *Benth.*

1. M. *Californica.* *Benth. l. c. p.* 419. *tab.* 20.



Bowlesia dichondroides

Herba annua, spithamæa, pilosiuscula, ramis dichotomis divaricatis. *Folia* inferiora petiolata, oblongo-linearia. *Bracteæ* ad dichotomias, et sub floribus amplexicaules, stellato-trilobæ, lobis lato-ovatis apice aristulatis. *Involucra* inferiora in dichotomiis solitaria et sessilia, superiora ad apices ramorum approximata. *Dentes* involucri subulato-aristati, subpungentes, exteriore longiore. *Perianthium* pedicello suo æquilongum, laciniis subæqualibus.

PTEROSTEGIA. *F. et M.*

Flores hermaphroditi vel polygami solitarii involucro bilobo fructifero ampliato dorsoque cristato obtecti. *Perianthum* 6-(interdum 5-) partitum, herbaceum, persistens. *Stamina* 6 (vel 5). *Styli* 3, brevissimi. *Stigmata* capitata. *Ovarium* trigonum, uniloculare. *Ovulum* unicum, basilare. *Caryopsis* triquetra, involucro inclusa. *Semen* erectum. *Embryo* in axi albuminis farinacei ; *radicula* supera.—Herba *annua, ramosissima, prostrata, facie* Drymariæ. Folia *opposita, obovata, vel subreniformia, integra vel apice emarginata ;* ochreæ *nullæ.* Flores *axillares, subsessiles, minuti.*

P. *drymarioides. F. et M. ind. sem. hort. Petrop.* 1835; *Am. Sc. nat. N. S.* 5. *p.* 304. (Tab. XC.)

In our specimens the involucre is only 2-lobed, not 2-leaved, and we have not observed more than three stamens in a flower; many of the female flowers want stamens entirely.

Tab. XC. *Fig.* 1. Portion of the flowering stem ; *fig.* 2. Floral bractea ; *fig.* 3. The same laid open ; *fig.* 4. Flower ; *fig.* 5. Stamen ; *fig.* 6. Pistil ; *fig.* 7. Fructiferous bractea ; *fig.* 8. Achenium within the persistent perianth :—*magnified.*

Ord. L. CHENOPODIEÆ. *De Cand.*

1. Suæda *fruticosa.* Forsk.—*Moq. Tend. in Ann. Sc. nat. N. S.* 4. *p.* 217. Salsola fruticosa, Auct.

1. Roubieva *anthelmintica ?* Var. foliis hastatis.

This differs considerably from the more usual state of the plant (*Chenopod. anthelminticum* L., and *Ambrina anthelmintica*, Spach, hist. nat. des veg. 5. p. 298) on account of the decidedly hastate and almost triangular leaves : the flowers, too, are in a simple terminal elongated interrupted spike. The genus *Roubieva* of Moquin Tendon, distinguished from *Chenopodium* by its vertical seed, and from *Agathophytum* by the keeled segments of its perianth, which form a pentagonal covering to the nut, was constituted for one or two South American species, but ought to include the present plant and a few others indicated by Spach under his *Ambrina*, which does not differ.

GRAYIA. *Nov. Gen.*

Flores dioici, ebracteolati, spicato-subracemosi. Masc. *Perianthium* 5-partitum, lacinis æqualibus inappendiculatis. *Stamina 5,* receptaculo inserta, perianthii laciniis opposita. *Squamulæ* hypogynæ nullæ. Fœm. *Perianthium* monophyllum, marginato-alatum, compressissimum, apice emarginatum, muticum, intus supra medium utriculatum. *Ovarium* in fundo utriculi sessile, anguste oblongum apice attenuatum, uniloculare, uniovulatum. *Stylus* subulatus, basi articulatus ; *stigmata* duo, filiformia, exserta, hirsuta. *Fructus* compressus, orbiculatus, perianthio aucto membranaceo venoso persistente inclusus, styli basi apiculatus. *Semen* verticale, compressum, orbiculatum, pericarpio tenui arcte adhærens testa, membranacea. *Embryo* hippocrepiformis, periphericus, albumen farinaceum cingens. *Radicula* infera.—Fruticulus *erectus, ramosus.* Rami *apice spinescentes, cortice albido tecti, juniores pubescentes.* Folia *solitaria vel fasciculata, oblongo-lanceolata, basi cuneata, juniora puberula et carnosula integerrima.*

1. G. *polygaloides. Hook. et Arn. in Hook. Ic. Plant. t.* 281.—Chenopodium ? spinosum. *Hook. Flor. Bor. Am.* II. *p.* 127, (mas.); *supra p.* 384.*

Hab. Interior of California, Nov. 1826; *Mr Douglas.* Snake country; *Mr Tolmie.*

Our first knowledge of this very singular and interesting plant, was derived from extremely young and imperfect specimens collected by Mr Douglas during his first journey in North West America, and noticed in the *Flora Boreali-Americana* as a doubtful species of *Chenopodium.* Our specimens with female flowers and fruit, from the Snake country, have an aspect so extremely different from those just alluded to, partly from the more fully developed foliage, and partly from the very different structure of the perianth, that it was not till after a most careful comparison of the two plants, that we could satisfy ourselves of their belonging to one and the same species. The habit and foliage resemble considerably some Cape *Polygalæ,* a resemblance still further strengthened by the shape and colour, frequently tinged with red, of the fructiferous perianth. The leaves when young are thick and fleshy, obovato-cuneate, and covered with minute mealy scales as in several species of *Atriplex ;* and it is from this circumstance very probable that the plant grows in salt marshes. When the leaves are older they elongate, and the mealiness disappears.

We have dedicated this genus to Dr Asa Gray, Professor of Botany in the newly established university of the State of Michigan, U.S., the distinguished author of the revision of North American *Rhynchosporeæ* and *Melanthaceæ,* and coadjutor with Dr Torrey in the Flora of North America. It is true that already two other genera have been named after our excellent friend, the one *Grayia* of Arnott, in Wight's Catalogue of plants of the Peninsula of India, No. 2033 ; but as Dr Arnott has reason to think that Dr Gray would prefer his name to be connected with the American plant, the Eastern one will be described under another designation ; the other is the *Asagræa officinalis* of Dr Lindley, in the Bot. Reg. (1839) t. 33 : but no sooner had Dr Gray seen this figure than he felt almost certain that the plant belonged to his genus *Schœnocaulon,* an opinion, he informs us, he has since verified by an examination of Scheide's specimen, the authority for the species.†

Ord. LI. SANTALACEÆ. *Brown.*

1. Comandra *umbellata. Nutt.—Hook. Flor. Bor. Am.* II. *p.* 139.

Hab. Snake country below the American falls. *Mr Tolmie.*

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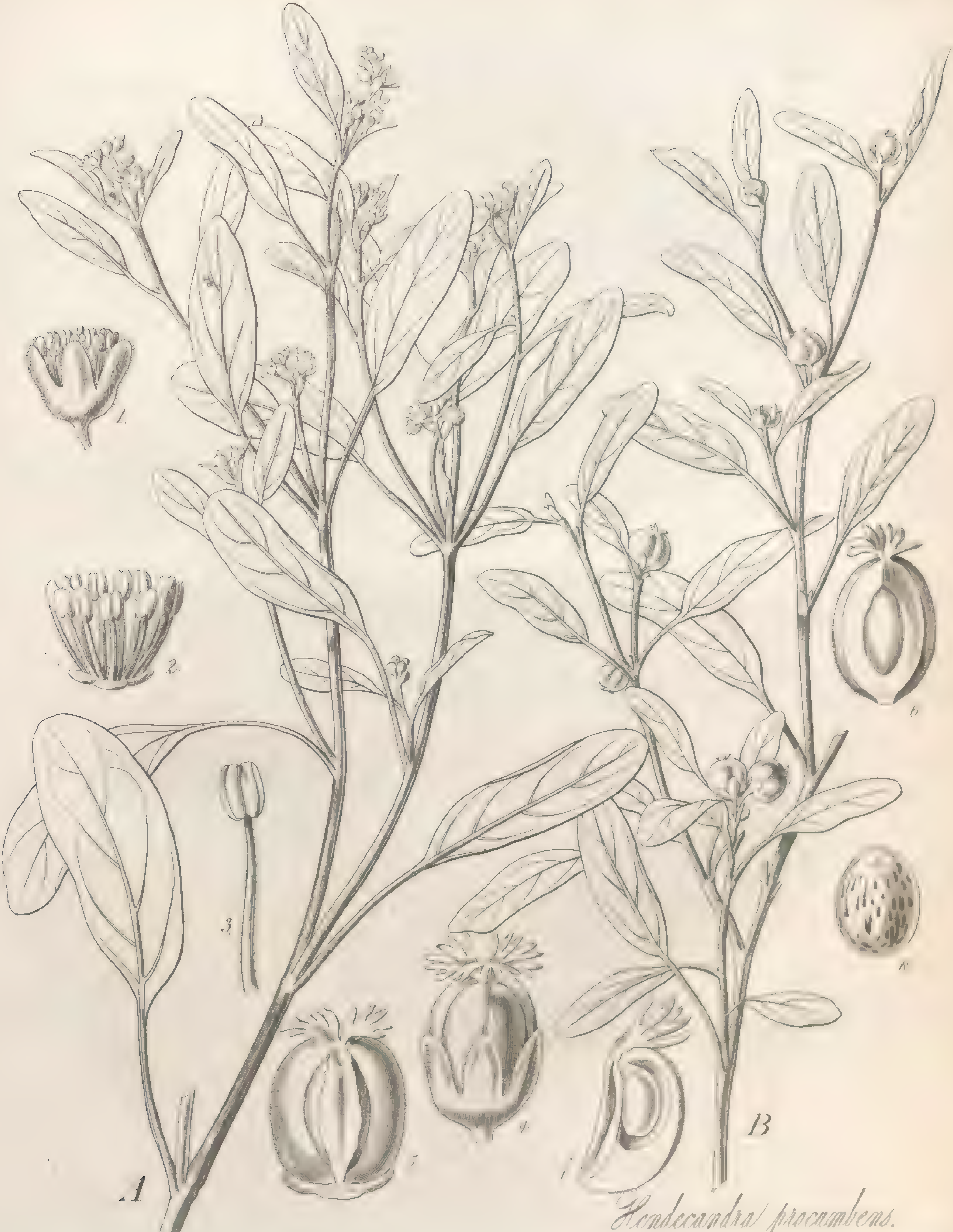
* Inserted there by mistake under *Plumbagineæ.*

† " Of *Schœnocaulon* I now know four species. The genus is extremely well marked and distinct, though the character requires some emendation, since it was drawn from a single species, and that without the fruit. There is first the original species, *S. gracile :*—then this of Lindley—thirdly, a plant in Drummond's Texan collection ; in the herbarium of Vienna I had named this *S. aletroides,* but as that name is not very appropriate, it may be rather called *S. Drummondii :* I have not seen the base of the stem, but it probably is bulbous like the others.—The fourth species (*S. caricifolium*) is *Veratrum caricifolium* Schlecht. in Ind. Sem. Halens. of which he has given me a specimen in fine fruit ; he possesses young plants raised from the seed also : the foliage, &c., is exactly the same as in the original species, but the spike is shorter and thicker." *Gray in litt.*

We have received from G. U. Skinner, Esq., of Guatemala specimens precisely according with Scheide and Lindley's plant, from Guatemala, as the Sabadilla of commerce of that country : but this must not be confounded with the *Veratrum Sabadilla* of Descourtilz Flor. des Antilles, III. t. 195, and of Turpin in the plates to the Dict. des Sc. Nat., which it is to be feared has nothing to do with the true Sabadilla.

TAB XCI.


1.
2.
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A
B

Hendecandra procumbens.

ORD. LII. LAURINEÆ. *Juss.*

1. Oreodaphne (Unbellularia) *Californica. Nees. ab. Esenb. Laur. p.* 463.—Tetranthera? Californica. *Hook. et Arn. supra, p.* 159.—Laurus regia.? *Dougl. Journal, in Hook. Comp. Bot. Mag. v.* 2.

ORD. LIII. EUPHORBIACEÆ. *Juss.*

1. Euphorbia *polygonifolia L.—Hook. Flor. Bor. Am.* II. *p.* 140.

HAB. Snake country. *Mr Tolmie.*

HENDECANDRA. *Esch.*—Astrogyne. *Benth.*

Flores dioici. MASC. *Calyx* 5-fidus, laciniis æstivatione subvalvatis. *Petala* nulla. *Glandulæ* 5, ad basin calycis sitæ, laciniis oppositæ. *Stamina* 6-10, æstivatione inflexa, libera : *filamenta* villosa : *antheræ* adnatæ, biloculares, ovales, loculis parallelis. *Ovarii* rudimentum nullum. FEM. *Calyx* 5-fidus. *Petala* nulla. *Discus* hypogynus carnosus obscure 5-lobus. *Ovarium* globosum, 3-loculare, loculis uni-ovulatis, ovulis appensis. *Styli* 3, breves, radiantes, sub-4-partiti, laciniis sæpe bifidis. *Capsula* subcoriacea, tricocca, seminibus solitariis.—Suffrutices *procumbentes vel adscendentes, pilis stellatis lepidoto-incanæ.* Folia *oblonga, integerrima, obtusa vel acuta, nervo medio subtus valido.* Flores *masculi in racemis spiciformibus terminalibus oppositifoliisve dispositi, breviter pedicellati, bracteis parvis : feminei subsolitarii.*

1. H. *procumbens* (*Esch.*) ; foliis longe petiolatis, racemis masculis abbreviatis petiolum vix superantibus.—(TAB. XCI.) *Esch. in Mem. Acad. Sc. St. Petersb.* : *Linnæa* III. *Litter. p.* 150.

HAB. San Francisco. *Dr Sinclair.* (H. M. S. Sulphur.) *Douglas.* Chamisso.

That this is the genus and species described by Eschschotlz we entertain no doubt, especially as we have received specimens so named from Chamisso. In the 5th volume of the Linnæa, p. 86, Chamisso and Schlechtendahl reduce it to *Croton*, and consider it no way different from *C. gracilis* of Kunth, from Mexico. Again, Mr Bentham, in his account of Hartweg's Mexican plants, No. 83, makes of *Croton gracilis* his *Astrogyne crotonoides,* and expresses his doubts if Mr Douglas' Californian specimens belong to the same, or form an allied species. An attentive comparison of Hartweg's specimens, and of Douglas' with Chamisso's, leave however no doubt on our minds that they all belong to the same genus, but that the Mexican species is different from the Californian. The name *Hendecandra* is certainly not appropriate, but we are unwilling to change it for one so much more recent, and founded on another species. Eschscholtz does not seem correct as to the number or situation of the stamens, and Mr Bentham has omitted to notice the hypogynous disc : the styles are often more divided than is stated by either. *Croton gracilis* of Kunth or *Astrogyne crotonoides,* Benth. may be thus distinguished :—*H. crotonoides ;* foliis breviter petiolatis, racemis masculis elongatis folia fere duplo superantibus.

TAB. XCI. A. Male Plant.—*Fig.* 1. Flower ; *fig.* 2. Stamens and glands ; *fig.* 3. Stamen. B. Female Plant. *fig.* 4. Advanced flower ; *fig.* 5. Capsule, with 1 lobe removed ; *fig.* 6. Lobe separated from the capsule ; *fig.* 7. The same cut open to show the position of the seed ; *fig.* 8. seed :—*magnified.*

ORD. LIV. GARRYACEÆ. *Lindl.*

GARRYA. *Lindl.*

Dioica. MASC. *Calyx* tetraphyllus. *Stamina* 4. FEM. *Calyx* ovario cohærens, bidentatus. *Ovarium* 1-loculare, ovula duo ab apice funiculorum totidem pendula. *Styli* duo setacei. *Pericarpium* baccatum, indehiscens, dispermum. *Semina* oblonga pendula. *Albumen* carnosum, prope hilum embryonem minimum fovens. *Radicula* supera.—Frutex *ramosus.* Folia *opposita, exstipulata, undulata, breve petiolata, acuta, coriacea, sempervirentia.* Flores *intra bracteas connatas, in spicis amentacies pedunculis dispositi. Lindl.*

1. G. *elliptica. Lindl. in Bot. Reg. t.* 1686.

First found by Mr Menzies in California.

ORD. LV. SAURUREÆ.

ANEMOPSIS. (Anemia. *Nutt.*)

Involucrum 5-8-phyllum, coloratum. *Spadix* simplex; floribus hermaphroditis bracteatis. *Perianthium* nullum. *Stamina* epigyna, 6 nunc 8; *filamenta* crassa, *antheræ* ovales biloculares, loculis lateralibus connectivo crasso disjunctis. *Styli* 3 nunc 4, subulati, ovaria coadunata, apice hiantia, 1-locularia. *Placentæ* 3-4 inter stylos laterales, pauciovulatæ. *Fructus* cum spadice coalescens. *Capsulæ* uniloculares, 3-4 valves, apice solo dehiscentes, sub 6-spermæ. *Semina* subrotunda, punctulata.—Herba *perennis, subaquatica, stolonifera.* Caulis *monophyllus, proliferus, monocephalus.* Folia *radicalia stipulata cordato-obovalia, obtusa, petiolata; caulinum amplexicaule.*

1. A. *Californica. Nutt. in Tayl. Ann. Nat. Hist.* I. *p.* 136.—(TAB. XCII.)

This has likewise been found at Zacatecas in Mexico, by Hartweg, and is No. 4 of his collection. We regret that our specimens will not, without the destruction of them, enable us to exhibit a representation of the base of the germen or young fruit, which is incorporated with the spadix. In their structure the fructification and inflorescence have a very close affinity with *Houttuynia*, (see Hook. in Bot. Mag. p. 2731):—the chief difference being that our plant has 6 (not 3) stamens.

TAB. XCII. *Fig.* 1. A floral bractea; *fig.* 2. A flower, the bractea being removed; *fig.* 3. Portion of the pistil which is free, not united with the spadix; the epigynous stamens being removed:—*magnified.*

While this part of the work was in the press, we were gratified by the arrival of an interesting collection of plants made on the Pacific coasts of America, by Dr Sinclair, surgeon of H.M. surveying ship, the Sulphur, dispatched to those seas under the command of Captain F. W. Beechey, and upon that officer's return, on account of ill health, of Captain Belcher. Some of the Californian plants, as in the present instance, will be here introduced, and a portion from a more interesting field will form another Supplement, and conclude this work. We gladly acknowledge Dr Sinclair's invaluable exertions in the cause of Botany by dedicating a new species of *Pine* (see p. 392) to him.

ORD. LVI. PLATANEÆ. *Lest.*

1. Platanus *occidentalis. L.—supra, p.* 160.

ORD. LVII. MYRICEÆ. *Rich.*

1. Myrica *Californica* (*Ch. et Schl.*) ramis angulatis, foliis anguste lanceolatis acutis

Anemopsis californica.

basi in petiolum brevem attenuatis adultis præsertim serratis glaucescentibus coriaceis punctis minutis resinosis adspersis margine reflexo obsolete nervosis, amentis axillaribus solitariis, fructibus tuberculatis nudis.—*Ch. et Schl. in Linnæa*, VI. *p.* 535; *Hook. Flor. Bor. Am.* II. *p.* 260.—M. Xalapensis, *supra p.* 160; (an H.B.K.?)

ORD. LVIII. CUPULIFERÆ. *Rich.*

1. Quercus *agrifolia* (*Née*) foliis subcordato-ovatis remote spinoso-dentatis utrinque glabris perennantibus, fructibus solitariis geminisque axillaribus, cupulæ hemisphæricæ basi attenuatæ squamis adpressis oblongis obtusiusculis glabriusculis, glande ovato-oblonga acuta juniore subconica.—*Née in Ann. Sc. Natur.* III. *p.* 271; *Willd. Sp. Pl.* IV. *p.* 431; *Spr. Syst.* III. *p.* 859.—*Hook. Ic. Pl. ined.*

2. Q. *Garryana* (*Dougl.*) foliis membranaceis latissime obovatis utrinque obtusis sinuato-pinnatifidis siccitate nigrescentibus supra glabris subtus petiolis ramisque dense fusco-pubescentibus lobis latis obtusissimis, fructibus sessilibus, cupula perbrevi-hemisphærica dense squamosa squamis ovato-acuminatis pubescentibus, glande ovata obtusa cum umbone conico. *Hook. flor. Bor. Am.* II. *p.* 159.

California. *Menzies. Douglas.*

3. Q. *Douglasii;* foliis membranaceis oblongo-ovalibus basi acutis petiolatis sinuato-pinnatifidis siccitate haud nigrescentibus, supra glabris subtus puberulis, lobis brevibus acutiusculis, petiolis ramulisque junioribus dense fulvo-pubescentibus, fructibus sessilibus solitariis binisve, cupula hemisphærica dense squamosa squamis ovatis convexis in appendicem submembranaceam fulvam appressam linearem obtusam productis pubescentibus, glande ovata cupulam triplo superante obtusa cum umbone conico.—*Hook. Ic. Pl. ined.*

The leaves and whole appearance of this plant closely resemble *Q. sessiliflora,* but the scales of the cupule are different. In this respect also, as well as in the shape and colour of the leaves when dry, it differs from *Q. Garryana.* We have branches with nascent foliage which we suspect to be the young state of this plant; in these the leaves are covered with down on both sides, the lobes are tipped with a short soft mucro.

4. Q. *densiflora;* foliis perennantibus coriaceis petiolatis oblongo-lanceolatis basi obtusis breviter acuminatis parallele nervosis integerrimis margine revolutis junioribus fulvo-furfuraceo-tomentosis subtus pallidioribus demum glabris, amentis masculis elongatis folia subsuperantibus densifloris valde tomentosis nunc ad basin flores paucos femineos gerentibus, fructibus sessilibus, cupula brevi hemispherica dense squamosa, squamibus elongato-linearibus laxis sericeis, glande ovato-globosa sericea.—*Hook. Ic. Pl. ined.*

This remarkable plant has very much the appearance of a *Castanea,* the fruit in the only specimen we possess being situated at the base of a male somewhat fascicled catkin of the former year, while the numerous male catkins of the present year present no appearance whatever of female flowers. The leaves are from two and a half to three inches long, and nearly three-quarters of an inch in breadth.

ORD. LIX. CONIFERÆ. *Juss.*

1. Taxodium *sempervirens. Lamb. Pin. t.* 643? *Hook. Ic. Pl. ined.*—Abies religiosa. *supr. p.* 184 (*an Cham. et Schlect?*)

Of this we have seen no flowers nor fruit, and the leaves are nearly twice the length of those figured in Mr Lambert's work, shining on the upper side as in *Podocarpus,* and glaucous underneath. The tips of the branches exhibit buds formed of imbricated membranaceous concave shining scales, which resemble the scales at the base of the galbule in Lambert's description and figure quoted. Our plant is obviously what Douglas alludes to in his Journal (Comp. Bot. Mag. vol. II. p. 150.) in the following words :—" But the great beauty of the Californian vegetation is a species of *Taxodium,* which gives the mountains a most peculiar, I was almost going to say awful, appearance,—something which plainly tells that we are not in Europe. I have never seen the *Taxodium Nootkatense* of Née, except some specimens in the Lambertian herbarium, and have no work to refer to; but from recollection, I should say that the present species is distinct from it. I have repeatedly measured specimens of this tree 270 feet long, and 32 feet round at three feet above the ground. Some few I saw upwards of 300 feet high, but none in which the thickness was greater than those I have instanced."

1. Pinus *Sinclairii;* foliis ternis acicularibus elongatis gracilibus supra canaliculatis dorso convexis margine asperis, strobilis basi obliquis pedalibus oblongis, squamis elongatis cuneatis, apicibus crassis elevato-tetragonis centro tuberculo spinuloso uncinato instructis. (TAB. XCIII.)

This covers the hills from Monterrey to Carmelo and to Punta Pinos. (*Dr Sinclair* of H. M. S. Sulphur.) It is probably the same as was observed by Mr Collie, and supposed by him to be *Pinus rigida,* Mill. (*vide supra, p.* 160.) The ternate or occasionally binate leaves are from three to four inches long, rigid and sharp. The solitary cone we possess is in an old state, the seeds having fallen out, and the scales spreading; it is twelve inches long, and five at its greatest breadth near the base. The scales are from two to three inches long, three-quarters of an inch broad, cuneate, hard and coriaceous, the apex much thickened, and forming a short four-sided pyramid with a short reflexed sharp rigid point. As a species it approaches, in the form of cone and scales, to *P. Montezumæ, Lam. Pin. t.* 22 :—but the leaves are quite different. It may possibly be the *Pinus Californiana* " Lois. in the N. Duhamel, 5, p. 243," and Loud. Arboret. Brit. p. 2268:—but all the description we can find of that tree, is simply that its leaves are in twos or threes, and that the cones are longer than the leaves. To this Loudon adduces as a synonym the *P. Montereyensis,* Godefroy and Hort. Society's Gard. of which, however, almost nothing is known.

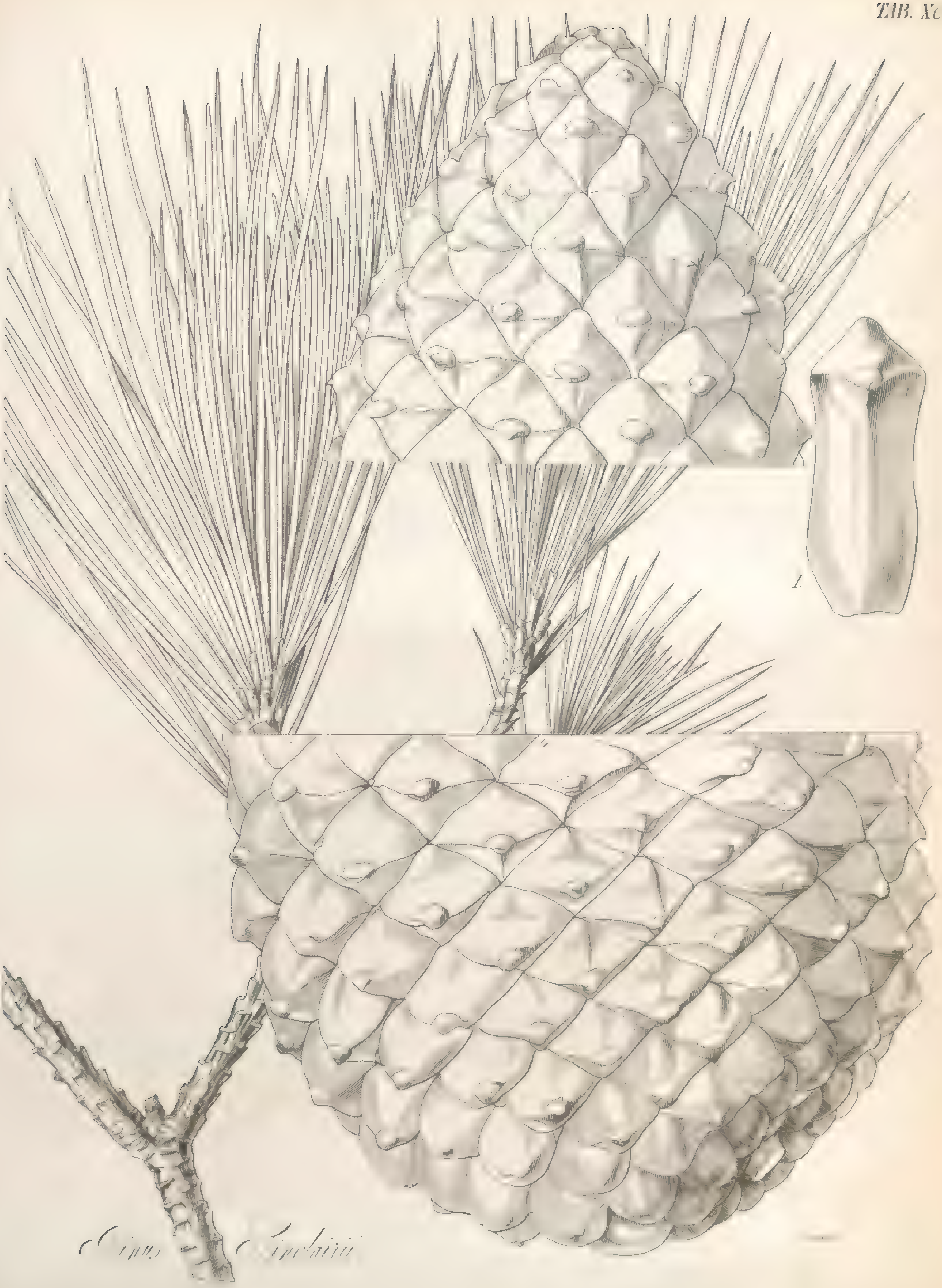
TAB. XCIII. The base and apex only of the cone are here represented, the whole being much too large for the plate. *Fig.* 1. Scale from the cone :—*nat. size.*

2. P. *radiata* (*Don.*); foliis ternis? strobilis inæquilateri-ovatis, squamis cuneatis crassis apice dilatatis late rhomboideis hemisphæricis centro depressis cum mucronulo, inferioribus hinc triplo majoribus.—*Don, in Lin. Soc. Trans.* XVII. *p.* 442. " *Lamb. Pin. t.* 86." *Loud. Arboret. Brit. p.* 2270, *f.* 2182.

California; *Beechy. Dr Coulter.*

We omitted this in our former account of the Californian plants, as we were acquainted only with a single cone, but feel no doubt in referring it as above; Dr Coulter found it along the sea-shore at Monterrey; and

[illegible] a pointed [illegible] a foot long" and the cone figured here
as P Sinclairii belong together, and must be referred to
P. Montezumae, from Sepir
The leaves figured here and the Cone drawn as radiata
come from Monterey and belong to radiata = insignis



Pinus Sinclairii

we possess the same collected at Tepic by Dr Sinclair of Her Majesty's Ship Sulphur. On comparing this with the *P. patula* of Scheide and Deppe, as figured in Lambert's Pinus, t. 19, (it is probably also the *P. patula* of Chamisso and Schlechtendahl in the 6th volume of the Linnæa, p. 354) many points of resemblance appear so much so, that we doubt of their being specifically distinct.

As the *Pines* form one of the most interesting features in the Botany of California, and as our Herbarium is but poor in specimens of this family, we shall give a list of all the species hitherto known, chiefly compiled from Loudon's excellent *Arboretum et Fruticetum Britannicum.*

1. P. *Sabiniana* (*Douglas*) ; foliis ternis prælongis, strobilis ovatis echinatis maximis, squamarum apicibus elongato-subulatis incurvis spinosis. *Lamb. Pin. t.* 80. *Loud. Arboret. Brit. p.* 2247, *f.* 2138—2140.

Hab. Upper California. *Douglas.*

2. P. *Coulteri ;* foliis ternis prælongis compressis vaginis filamento-laceris, strobilis oblongis solitariis maximis, squamis cuneatis apicibus elongatis incrassatis lanceolatis mucronatis ancipiti-compressis aduncis. *Don. in Linn. Trans. v.* 17. *p.* 440. "*Lamb. Pin. t.* 83." *Loud. l. c. p.* 2250. *f.* 2146.

Hab. Mountains of San Lucia, California, at an elevation of from 3-4000 feet above the level of the sea. *Dr Coulter.*

Mr Loudon and others are disposed to consider this merely a variety of the preceding.

3. P. *insignis. Dougl.—Loud. l. c. p.* 2265. *f.* 2171, 2172.

Hab. California. *Douglas.*

An accurate specific character and full description of this species are still desiderata.

4. P. *Sinclairii. Hook. et Arn. supra, et Tab. nostr.* XCIII.

Hab. Hills above Monterrey, &c. *Mr Sinclair. Messrs. Lay and Collie?*

5. P. *Californica. Lois.—Loud. l. c. p.* 2268.

Hab. Monterrey. *Colladon.*—A very dubious species.

6. P. *muricata ;* foliis ternis? strobilis inæquilateri-ovatis agregatis, squamis cuneatis apice dilatatis umbilico elevato mucronatis baseos externæ elongatis ancipiti-compressis recurvato-patentibus. *Don. in Linn. Trans. v.* 17. *p.* 441. "*Lamb. Pin. t.* 84." *Loud. l. c. p.* 2269. *f.* 2180.

Hab. San Louis Obispo, California, at the height of 3000 feet. *Dr Coulter.*

7. P. *radiata. Don.*—"*Lamb. Pin. t.* 86." *Loud. l. c. p.* 2270. *fig.* 2182. *Hook. et Arn. supra.*—an P. patula *Scheide* and *Deppe ?*

Hab. Sea-shore, Monterrey. *Dr Coulter. Douglas.*

8. P. *tuberculata ;* foliis ternis ? strobilis inæquilateri-oblongis aggregatis, squamis apice 4-angulis umbilico depresso truncatis baseos externæ majoribus elevatis conicis. *Don. in Lin. Trans. v.* 17. *p.* 442. "*Lamb. Pin. t.* 85." *Loud. l. c. p.* 2270. *fig.* 2181.

Hab. Sea-shore, Monterrey. *Dr Coulter.* May this not be a variety of the preceding ?

9. P. *Lambertiana. Dougl. in Linn. Trans. v.* 15. *p.* 500. "*Lamb. Pin. t.* 84." *Loud. l. c. p.* 2288. *fig.* 2203 to 2206. *Hook. Fl. Bor. Am. v.* 2. *p.* 161.

Hab. Mountains of San Lucia, near the mission of San Antonio. *Dr Coulter,* (see Loudon, l. c. p. 2251); intermixed with *P. Coulteri.*

10. P. *monticola. Dougl.*—"*Lamb. Pin. t.* 87." *Loud. l. c. p.* 2291. *fig.* 2208, 2209.

Hab. California ? Spokan River (*Douglas*) according to Mr Loudon :—but the Spokan River is not in California. The species, judging from the figure, too closely resembles *P. Lambertiana.*

11. P. (*Abies*) *Douglasii.* Sab.—"*Lamb. Pin. t.* 90." *Lindl. in Penn. Cycl. p.* 32. *n.* 9. *cum Ic. Loud. l. c. p.* 2319. *Hook. Fl. Bor. Am.* II. *p.* 169. *t.* 183.

Hab. I can scarcely doubt but this exists in California, since Mr Douglas describes it as common timber in N. W. America, and he has himself recorded it as growing as far south as lat. 43°.—Dr Lindley I find, in the Penny Cyclopedia, refers Lambert's *Pinus* (Abies) *taxifolia*, t. 47, to this species, which I was led to consider a var. of *Pinus* (Abies) *Canadensis.*

12. P. (Abies) *Menziesii.* "*Lamb. Pin. t.* 89." *Lindl. in Penn. Cycl. p.* 32. *Loud. l. c. p.* 2321. *fig.* 2232.

Hab. North California. *Douglas.*

13. P. (Abies) *grandis. Dougl.* "*Lamb. Pin. t.* 94." *Hook. Fl. Bor. Am.* II. *p.* 163. *Loud. l. c. p.* 2341. *fig.* 2245, 2246.

Hab. Northern California. *Douglas.*

14. P. (Abies) *amabilis. Dougl.—Loud. l. c. p.* 2342. *fig.* 2947, 2948.

Hab. California ? *Douglas.* This Pine is not taken up by Lambert, nor by Lindley, and Mr Loudon seems to consider it scarcely distinct from *P. grandis.* No particular habitat is given for it.

15. P. (Abies) *nobilis. Dougl.*—"*Lamb. Pin. last fig.*" (*Loud.*) *Hook. Fl. Bor. Am.* II. *p.* 162. *Loud. l. c. p.* 2342. *fig.* 2249, 2250.

Hab. Mountains of northern California. *Douglas.*

16. P. *bracteata ;* foliis solitariis bifariam patentibus linearibus mucronatis planis subtus argenteis, strobilis ovatis, bracteolis trilobis lacinia intermedia longissima foliacea recurvata. *Don, in Linn. Trans. v.* 17. *p.* 442. "*Lamb. Pin. t.* 90." *Loud. l. c. p.* 2348. *fig.* 2256.

Hab. California. *Douglas.* Mountains of San Lucia, at an elevation of 3000 feet. *Dr Coulter.*

Ord. LX. ORCHIDEÆ. *Juss.*

1. Corallorhiza *multiflora* (*Nutt.*); scapo multifloro, labello cuneato-ovali tripartito recurvo maculato, calcare tuberculiformi, ovario adnato.—*Hook. Flor. Bor. Am.* II. *p.* 194: *Exot. Flor. t.* 174.—C. innata. *Nutt. Gen.* II. *p.* 197.

Ord. LXI. IRIDEÆ. *Juss.*

1. Sisyrinchium *mucronatum. Mich.*—*Hook. Flor. Bor. Am.* II. *p.* 207.

Hab. Walamet River; *Tolmie.*

2. S. *grandiflorum* (*Douglas*); caule stricto compresso foliis erectis vaginantibus longiore, spatha biflora pedunculos subæquante, perianthio late campanulato, filamentis longissimis subulatis basi contracta solummodo connatis erectis demum patentibus.—*Bot. Reg. t.* 1364. *Bot. Mag. t.* 3509; *Hook. Flor. Bor. Am.* II. *p.* 207.

Hab. Between Burnt and Malheur Rivers, Snake Country; *Tolmie.*

1. Iris *Douglasiana;* imberbis, rhizomate diamet. circiter $\frac{3}{8}$ unc., foliis angustis $\frac{1}{4}$ unc. latis acutis caule solido dodrantali trifloro parum longioribus, spathæ valvis ultrabiuncialibus acutis pedunculos longe superantibus, germine attenuato oblongo angulato, tubo subunciali (circiter $\frac{1}{4}$ unc. libero) limbo circiter sesquiunciali, sepalis angustis subacutis, petalis apice denticulatis. *Herb. mst.*—var. 1. *bacteata;* caule superne bracteato (ut in *I. tenace*) spatha 3-valvi, pedunculis brevioribus, limbo breviore (saturatiore?)—var. 2. *nuda;* caule superne nudo, spatha 4-valvi, pedunculis longioribus, limbo longiore (pallidiore?) *Herb. Mst.*

2. I. *longipetala;* imberbis, foliis angustis (sub $\frac{1}{4}$ unc. latis) erectis acutis caulem solidum bracteatum aliquantulum superantibus, spatha 2-3-flora valvis acutis (circiter $3\frac{1}{2}$ uncialibus) germen oblongum superantibus, pedunculis sesquiuncialibus tubo brevi ($\frac{1}{8}$ unc. libero vix $\frac{1}{16}$ solido), petalis sepalisque angustis longitudine subæqualibus (circiter $2\frac{1}{2}$ unc.) cristas styli duplo fere superantibus, perianthii colore dubio (fulvo? vel flavescente? vel albicante?) venis cæruleis. *Herb. Mst.*

3. I. *Beecheyana;* rhizomate crasso (diamet. semunc. vel ultra), foliis angustis ($\frac{1}{4}$ unc. latis) erectis acutis subpedalibus (8-12-unc.), spatha foliacea, caule unifloro pedunculum brevem includente, germine attenuato oblongo angulato sulcato tubo tenui subunciali ($\frac{3}{8}$ unc. solido) limbo circiter (vix) biunciali (pallide cæruleo?) *Herb. mst.*—I. sibirica. *Hook. et Arn. supra, p.* 160.

Hab. California. *Messrs Lay and Collie.*

For the following observations on N. American *Irides* we are indebted to the Honourable and Rev. Wm. Herbert of Spofforth:—"I believe that no bearded *Iris* has yet been discovered in America, the only exception being the alleged pubescence of the base of the petals (not sepals) in *I. hexagona;* Walt. Fl. Car. a plant erroneously confounded by Michaux with *I. Virginica.* L.—(germine sub-trigono apiculato, caule 1-2 furcato, furca superiore semper subæquali. *mst.*)—whereas *hexagona,* of which there are several varieties from Texas, New Orleans, and other parts of the southern states (germine hexagono, caule indiviso, floribus inferioribus axillaribus. *mst.*) has not the forked stalk which distinguishes all the numerous varieties of the former. *I. lacustris* is reported to have bearded sepals, but I suspect it will be found to have rather crests, like I. *cristata,* of which it has precisely the aspect, a fact which I shall not have an opportunity of verifying before the spring. I also doubt the truth of any American *Iris* having a fistulous stalk, that remarkable feature being confined to the numerous varieties of *I. Sibirica.* I believe that Pursh's statement, that the Missourian *Iris* of Lewis has fistulous stalks, simply implies that, whereas that plant has been erroneously named *Sibirica, Sibirica* is fistulous, but I place no confidence in the fact as to Lewis's specimen. It is *possible* that *I. Tolmieana,* (mihi)[*] which in a dry state has much the aspect of *I. Sibirica* v. *sanguinea,* may be Lewis's plant.[†] *I. Sibirica* v. *sanguinea,* has been separated by Continental botanists under the name *hæmatophylla,* with an allegation that its scape is solid, a statement which is quite incorrect. It is certainly a variety of *Sibirica,* having not only the fistulous stalk, but every other important feature of that plant, especially the two gibbous teeth near the base of each sepal, which, though not recorded, are, I believe, peculiar to that species, and rarely, if ever, obsolete. *I. Beecheyana* has been confounded by the collector with *I. humilis,* a plant of the Ukraine, found especially near Elizabethgrod; as *I. Ruthenica* has, on the other hand, been confounded with it in Russia, from whence *Ruthenica* has been sent with the wrong name to the British nurserymen. *I. Tolmieana* may be at once distinguished from *humilis* by its strong thick rootstalk. The plant most nearly allied to *humilis* is *I. Cretica, mihi,* found in Crete, and also near Napoli di Romapia, foliis subseptemuncialibus vix lineam latis acutis basi ampliatis marginibus coriaceo-crispis, $3\frac{1}{2}$ uncias solido $\frac{1}{5}$ unc. ampliato libero, limbo biunciali. I apprehend it has never been observed that the true character of the genus *Iris* is a short ventricose or somewhat funnel-shaped tube free from the style, and a solid subcylindrical base which in some species is little more than a point of union, and in others is prolonged many inches. This solid part of the tube is in some species of the same texture as the thick parts of the limb, in others of the coriaceous texture of the germen from which it has in that case no decided point of separation outwardly discernible. These important circumstances in the structure appear to have been neglected by botanists. The true stigma of *Iris* is transverse below the crests of the style, and its form is very different in different species: another most important feature which has been neglected, but it cannot be ascertained in dry specimens. In the numerous native specimens I had seen of *I. tenax,* whether from Newfoundland or the N. W. of America, the spathe is one-valved, the second valve being placed like a bracte an inch below, on the stalk. A similar disturbance of the spathe takes place in *I. Douglasiana* v. bracteata." W. HERBERT.

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[*] Iris *Tolmieana;* imberbis, foliis anguste (sub $\frac{1}{4}$ unc. latis) erectis acutis basi purpureis caule (bifloro) solido nudo brevioribus, spatha bivalvi acuta subtriunciali germen alternate oblongum (vix) subæquanti, tubo brevi ($\frac{1}{4}$ unc. libero vix lineam solido) sepalis (ultra $2\frac{1}{2}$ uncialibus) petala circiter biuncialia superantibus, styli lobis ultra sesquiuncialibus (cristis bidentatis ?), perianthio cærulescente ?—*I. hæmatophylla* var. *Valametiana. Herb. in Hook. Flor. Bor. Am.* II. *p.* 206.

HAB. Prope fluvium Walamet in Fl. Columbiam ex parte meridionali tendentem legit *Tolmie.*

[†] I rather refer his to a race of *Iris* extending from the hills of Kentucky to Canada, *I. Caurina* (mihi) folio $\frac{1}{2}$-$\frac{3}{8}$ unc. latis vel ultra, caule bracteato simplici vel ramulo axillari, germine oblongo, tubo brevi amplo parte solida brevissima.

ORD. LXII. TULIPACEÆ. *DC.*

1. Fritillaria *mutica* (*Lindl.*); cauli basi longe nudo apice racemoso multifloro, foliis inferioribus verticillatis a lata basi longe angustatis ecirrhosis, floribus secundis tessellatis nutantibus basi obtusis bracteis triplo brevioribus, pedunculis brevissimis recurvis. *Lindl. in Bot. Reg. sub t.* 1663.

This "has very much the aspect of *F. verticillata,* but the leaves are not cirrhose, and the flowers are greenish-purple, spotted like *F. Meleagris,* growing in long racemes." *Lindl.*—In our specimens the pedicels can scarcely be called "very short," being often three quarters of an inch long, and the leaves are lanceolate linear and acuminated, but not with a broad base. The style is, in this and in both the following, trifid, as in the genuine species of *Fritillaria.*

2. F. *liliacea* (*Lindl.*); caule stricto apice racemoso basi folioso foliis oblongo-lanceolatis inferioribus verticillatis superioribus alternis, floribus secundis concoloribus cernuis basi angustatis, pedunculis erectis bracteis longioribus, capsula oblonga apice rotundata basi mutica. *Lindl. l. c.*

"Closely allied to *F. alba* of Nutt., from which it differs in its broader leaves, and differently shaped capsule. It is a most remarkable plant, with the habit of a lily: its flowers are apparently pale yellow, narrow at the base, and not unlike those of *Lilium pudicum.*" *Lindl.*—Of this we possess two forms: one with the flowers scarcely narrowed at the base, and about as obtuse there as in *F. mutica,* while the pedicels are considerably longer than the bracteas: the other, as Lindley says, has flowers very similar to *Lilium pudicum,* being remarkably narrowed at the base, but the pedicels are in every instance much shorter than the bracteas, while the accompanying specimens in fruit resemble the first variety. All have the pedicels erect, except immediately under the flower, where they are recurved.

3. F. *biflora* (*Lindl.*); caule basi nudo apice bifloro, foliis verticillatis alternisve oblongo-lanceolatis versus apicem caulis deficientibus, floribus pendulis subcylindraceis concoloribus, pedunculis bracteis brevioribus. *Lindl. l. c.*

This "resembles *F. tulipifolia* in habit, but differs in its two-flowered stem, and numerous leaves which are either alternate or verticillate." *Lindl.*—Our specimens, in habit as well as in the colour of the flowers, approach so closely to *F. Kamtschatcensis,* that they are scarcely to be distinguished but by the leaves of the perianth being quite destitute of the curious crested veins, almost peculiar to that species, and which are represented at Tab. 193. A. of the Flor. Bor. Am.

1. Erythronium *grandiflorum* (*Pursh.*); foliis oblongo seu elliptico-lanceolatis vix punctatis, pedunculo 1-paucifloro, sepalis lanceolatis valde acuminatis fere ab ima basi reflexis, stigmate tripartito.—*β. giganteum;* cauli 2-5 floro, floribus flavis. *Hook. Flor. Bor. Am.* II. *p.* 1820.—E. giganteum. *Lindl. in Bot. Reg. sub. t.* 1786.

HAB. β. Blue Mountains, Snake Country; *Tolmie.*

Dr Lindley distinguishes the var. β., his *E. giganteum,* from the type of the species, by the irregularly branched scape, the leaves of the perianth reflexed only from the middle, and the stigma 3-lobed, not 3-partite: but there is no difference whatever in the two last points, and as to the first, these are insensible gradations from a single to a several flowered scape.

CALOCHORTUS. *Ph.*

Flores erecti, explanati, patentes; *sepala* glabra convoluto-acuminata. *Petala* majora, rotundata, plana, medio barbata, basi maculata glabra. *Stylus* nullus. *Stigmata* 3. *Capsula* triangularis coriacea. *Semina* serie simplici affixa, plana, *testa* suberosa.—Bulbi *tunicati, foliis convoluti-acuminatis rigidis. Lindl.*

1. C. *venustus* (*Benth.*); caule paucifolio subtrifloro, sepalis erectis, petalis præter fasciculum pilorum glabris basi rubris et versus apicem macula rubra notatis. *Benth. in Hort. Soc. Trans. N. S.* I. *p.* 412. *t.* 15. *f.* 3.

Sepals straight. Petals cuneate-subrotund, crispid at the margin, white, yellowish at the base, and then furnished with a cuneate blood-red canal which is yellow at the apex; above this, and on the expanded portion of the petal is a large round blood-red stain. It is a very beautiful species.

2. C. *splendens* (*Benth.*); caule 3-5-floro, sepalis revolutis, petalis intus sparse pilosis in parte superiore glabris basi maculatis extus ecostatis. *Benth. in Hort. Soc. Trans.* I. *N. S. p.* 411. *t.* 15. *f.* 1; *Lindl. Bot. Reg. t.* 1676.

Petals of an uniform lilac colour. It is closely allied to *C. venustus*, from which, however, it differs not only in the colour of its petals, but in its flowers being somewhat smaller, and its sepals rolled back from the point; the arrangement of the hairs upon its petals is also very different. In *C. venustus* there is, just above the base of the petals, an oblong tuft of rather loose hairs, which gradually scatter themselves over the petal for a short distance round the tuft; but in *C. splendens* the tuft is smaller, and composed of very short firm hairs, collected into a compact oblong mass, almost resembling a wart, and separated by a smooth interval from the scattered hairs of the petal, which are long and numerous.

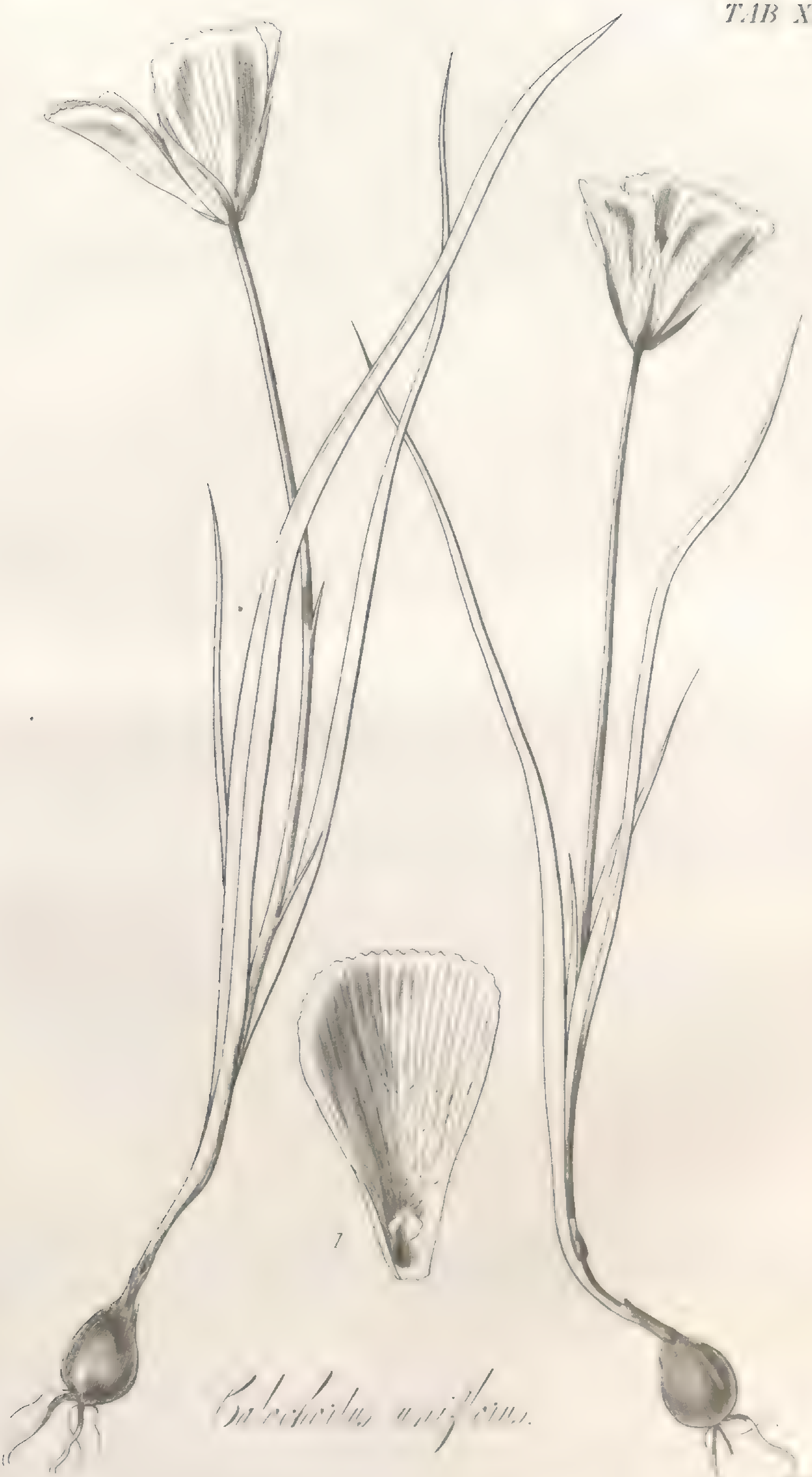
3. C. *luteus* (*Dougl.*) caule subtrifloro, foliis convolutis acuminatis pedunculis gracilibus brevioribus, sepalis apice recurvis, petalis cuneatis apice rotundatis medio transverse barbatis. *Lindl. in Bot. Reg. t.* 1567.

The flowers are rather smaller than in the two preceding species, and of a deep yellow, greenish about the middle and at the base, and covered near the middle with red dots.

4. C. *uniflorus*; caule humili versus basin 1-3-phyllo subunifloro, pedunculo elongato gracili folia superante, sepalis apice patulis, petalis cuneatis apice rotundatis denticulatis basi dense barbatis e basi ad medium sparse pilosis superne glabris. (TAB. XCIV.)

This is most allied to *C. elegans*, but has very differently shaped sepals and petals, and the stem has scarcely any tendency to produce more than a single flower. We omit here *C. elegans*, *macrocarpus*, and *nitidus*, said to be from California, for, according to the stations given by Douglas, none of them were found in that country: descriptions of them are given in the Flor. Bor. Am. II. p. 183. With regard to the variety of *C. elegans* noticed in the Flor. Bor. Am. I. p. 183, as found by *Mr Tolmie* on the banks of the Walamet river, we are now satisfied it is perfectly distinct from either α. or β. of Douglas, and that it forms a new species, which may be called *C. Tolmiei*; it is closely allied to *C. nitidus*, (Dougl. in Hort. Soc. Trans. VII. t. 9,) but the flowers are rather smaller, not in an umbel, but in a racemose panicle, and the cuneate-obovate petals are densely bearded to the very apex, much more so than in any other known species of the genus.

Fig. 1. Petal:—*magnified.*



Calochortus uniflorus.

CYCLOBOTHRA. *Succet.*

Flores nutantes ventricosi vel campanulati. *Sepala* glabra, acuta. *Petala* majora et dissimilia, barbata, infra medium fovea glabra nectarifera alte impressa extus gibbosa. *Stigmata* 3. *Capsula* triptera, coriaceo-membranacea. *Semina* serie simplici affixa, angulata.—Bulbi *tunicati, foliis planis acuminatis.*

1. C. *pulchella* (*Benth.*)*;* umbellis 2-3-floris, pedunculis bracteis brevioribus, floribus globosis, petalis ovatis obtusis serrulato-fimbriatis fovea valde excavata extus callosa, sepalis ovato-lanceolatis acuminatis quam petala vix brevioribus. *Benth. Hort. Soc. Trans. N. S.* I. *p.* 415. *t.* 14. *f.* 1; *Lindl. in Bot. Reg. t.* 1662.

Flowers yellow, the sepals greenish and striated with green.

2. C. *alba* (*Benth.*)*;* umbella 2-3-flora, pedunculis bracteis brevioribus, floribus oblongis inflatis, petalis ovatis obtusissimis margine nudiusculis fovea leviter impressa sepalis ovato-lanceolatis duplo longioribus. *Benth. in Hort. Soc. Trans. N. S.* I. *p.* 413. *t.* 14. *f.* 3; *Lindl. in Bot. Reg. t.* 1661.—Calochortus albus. *Dougl.*

Flowers white. Sepals of a yellowish-green. The flowers do not appear to us to be oblong, but when expanded to be broadly ovate, nearly as in *C. pulchella.*

3. C. *paniculata* (*Lindl.*)*;* floribus solitariis, pedunculis bracteis subæqualibus floribus oblongis; petalis angustis obtusis subciliatis dimidia superiore calvis fovea leviter excavata sepalis ovato-lanceolatis acuminatis duplo longioribus. *Lindl. in Bot. Reg. sub t.* 1662.

Præcedenti affinis; caule, panicula, floribus solitariis, pedunculis bracteis longioribus, alabastris angustis cæterisque satis distincta. Flores albi. *Lindl. l. c.*—Of this we know nothing, unless it prove to be a mere form of *C. alba,* with which it appears to us to agree in almost every important character, as well as in the white flowers.

Ord. LXIII. ASPHODELEÆ. *Juss.*

1. Allium *stellatum. Fras.—Hook. Flor. Bor. Am.* II. *p.* 184. *Ker in Bot. Mag. t.* 1576.

2. A. *acuminatum* (*Hook.*)*;* foliis linearibus brevibus paucis radicalibus, scapo humili terete, umbella pluriflora patente, sepalis roseis subovalibus acuminatissimis basi gibbosis interioribus minute serrulatis apicibus recurvis, staminibus conformibus perianthio duplo fere brevioribus, ovario 3-lobo, stigmate brevi trifido.—*Hook. Flor. Bor. Am.* II. *p.* 184. *t.* 196.

Hab. Blue Mountains, Snake Country, abundant; *Mr Tolmie.*

3. A. *Douglasii* (*Hook.*)*;* bulbo late ovato, foliis binis lanceolato-falcatis striatis basi longe angusteque attenuatis radicalibus, umbella multiflora patente, sepalis (roseis) ovati

longe anguste acuminatis carinatis rectis stamina conformia subæquantibus, ovario trilobo, stylo integro. *Hook. Flor. Bor. Am.* II. *p.* 184. *t.* 197.—β. foliis scapo longioribus. *Hook. l. c.*

Hab. β. Between Burnt and Malheur Rivers, Snake Country. *Tolmie.*

4. A. *falcifolium;* humili, foliis binis lanceolatis recurvo-falcatis striatis basi attenuatis radicalibus, umbella densa multiflora patente, sepalis (roseis) lanceolatis acuminatis undulatis carinatis apice recurvis omnibus margine undique minute glanduloso-serrulatis stamina conformia longe superantibus, ovario trilobo, stylo integro.

This was collected by Douglas in California, probably at no great distance from the coast. It is closely allied to *A. Douglasii,* but differs from that species by its more humble stature, shorter and much more falcate leaves, more compact umbel, much larger flowers, narrower and thinner sepals, which are, moreover, undulated and serrulate with minute glands and almost twice as long as the stamens.

HESPEROSCORDON. *Lindl.*

Perianthium subcampanulato-rotatum, bifidum, cum pedicello articulatum. *Stamina* 6, fertilia; filamentis dilatatis membranaceis æqualibus, e fauce exortis, basi subconnatis. *Squamæ hypogynæ* nullæ. *Ovarium* sessile, 3-loculare, polyspermum, apice 3-glandulosum. *Stylus* teres, cum ovario articulatus. *Stigma* simplex. *Capsula* trilocularis, 3-valvis, polysperma, valvis medio septiferis. *Semina* nigra angulata, subcrustacea.—Herbæ *cormis induviatis.* Flores *umbellati. Lindl.*

1. H. *lacteum* (*Lindl.*) umbella multiflora laxa, floribus exterioribus pedicello 2-4-plo brevioribus, perianthii laciniis stellatis, ovario subgloboso. *Lindl. in Bot. Reg. t.* 1639.

This differs from *H. Lewisii.* Hook. Flor. Bor. Am. II. p. 185. t. 198, by the umbel being much fewer flowered and lax, the pedicels conspicuously longer than the flowers, and slender, and the perianth not campanulate. In *H. Lewisii* the ovary is so attenuated at the base as to be almost stipitate. In the centre of the umbel the flowers expand at a later period, and are on shorter pedicels than the outer ones.

CALIPRORA. *Lindl.*

Perianthium subcampanulatum, cum pedicello continuum, 6-partitum. *Stamina* 6, omnia fertilia, fauce exorta, verticillata, tria breviora: *filamenta* petaloidea, biloba, antheris inter lobos sessilibus. *Squamæ hypogynæ* nullæ. *Ovarium* stipitatum, 3-loculare, polyspermum. *Stylus* simplex. *Stigma* trilobum. *Capsula* membranacea, triptera. *Semina* obovata, nec atra nec crustacea.—Folia *radicalia lineari-ensiformia, acuminata, canaliculata, debilia, scapo longiora.* Scapus *erectus teres.* Flores *umbellati, lutei, laciniis medio extus fusco-purpureis.* Bracteæ *spathaceæ, ovatæ, scariosæ, pedicellis multo breviores.* Lobi *filamentorum acuti.*

1. C. *lutea. Lindl. in Bot. Reg. t.* 1590.

The seed-coat is very unlike that of *Allium* or indeed any of the *Asphodeleæ* as limited by Brown, and rather resembles in that respect the *Tulipaceæ:* but we have not seen it perfectly mature. Lindley, from whom the remainder of the above character is taken, takes no notice of it.

TRITELEIA. *Hook.*

Perianthium tubulosum, subinfundibuliforme, marcescens. *Stamina* 6, duplici serie inserta: superiora petalis opposita. *Squamæ hypogynæ* nullæ. *Ovarium* sæpius stipitatum, raro sessile, polyspermum; *stigmate* trilobo.—Herbæ *cormis induviatis*. Flores *umbellati.*

1. T. *laxa* (*Benth.*); foliis linearibus glaucis scapo longioribus, involucro pedicellis duplo breviore, pedicellis laxiusculis perianthio basi angustato æqualibus, ovario longe stipitato, filamentis 6 decurrentibus basi cristatis, umbella multiflora.—*Benth. in Hort. Soc. Trans. N. S.* I. *p.* 413. *t.* 15. *f.* 2. *Lindl. in Bot. Reg. t.* 1685.

This is readily distinguished from *T. grandiflora* by the attenuated base of its perianth, and the curved stalk to its ovarium, two or three times longer than the ovarium itself, and half the length of the perianth; in *T. grandiflora* the perianth is wide at the base, almost indeed campanulate, and the stalk of the ovarium is not half so long as the ovarium, and many times shorter than the perianth. Although there be little difference in the width of the flowers, the length of the perianth of *T. laxa* is twice that of *T. grandiflora.*

2. T. *peduncularis* (*Lindl.*); foliis linearibus scapo erecto bipedali brevioribus, involucro pedicellis quater breviore, pedicellis strictis perianthio obconico quater longioribus, ovario breviter stipitato, limbo perianthii tubo longiore, umbella multiflora. *Lindl. in Bot. Reg. sub. t.* 1685.

The flowers of this species are of a pale blue, not purple colour as in the two others: each sepal is marked along the back with a purple line.

BRODIÆA. *Sm.*

Perianthium tubuloso-campanulatum, sexfidum, persistens. *Stamina* 3 ad faucem et laciniis tribus internis opposita, cum squamis tribus (stamin. abortivis) alternantia. *Ovarium* trigonum, basi attenuatum. *Stylus* filiformis. *Stigma* trifidum. *Capsula* obovata, stipitata, 3-locularis, loculicido-trivalvis. *Semina* cuique loculo 4-5, peltata.—Flores *umbellati.*

1. B. *grandiflora* (*Sm.*); pedicellis umbellatis bracteas longe superantibus, squamis perianthii oblongis obtusissimis integris.—*Sm. in Lin. Soc. Trans.* X. *p.* 2. *Bot. Reg. t.* 1183 *Bot. Mag. t.* 2877. (non *Pursh*, nec *Nutt.*)—B. coronaria. *Salisb.*

Hab. California; *Douglas*. Dry plains of the Wallamet river; *Tolmie.*

2. B. *congesta* (*Sm.*); floribus subcapitatis, bracteis pedicellos superantibus, squamis perianthii lanceolatis acutis bifidis.—*Sm. in Lin. Soc. Trans.* X. *p.* 3. *t.* 1.

Ord. LXIV. ASPARAGEÆ. *Juss.*

1. Smilacina *stellata*, *Desf.*—Convallaria stellata. *L.*—*Bot. Mag. t.* 1043.
2. S. *racemosa*, *Desf.*—Convallaria stellata. *L.*—*Bot. Mag. t.* 899.

Ord. LXV. MELANTHACEÆ. *Br.*

1. Zigadenus *chloranthus. Richards. App.* 12. *Hook. Flor. Bor. Am.* II. *p.* 177.—*α; minor.*—Z. commutatus, *Schult. Syst. Veget.* VII. *p.* 1560. *Hook. et Arn. supra, p.* 161. —Z. glaberrimus, *Ker in Bot. Mag. t.* 1680 (non *Mich.*)—*β. major;* foliis longioribus, scapo paniculato.—Z. glaberrimus, *Hook. et Arn. supra, p.* 160 (non *Mich.*)

Both varieties are in Mr Douglas' collection from California.

1. Trillium *sessile, L.—Mich. Flor. Bor. Am.* I. *p.* 215. *Bot. Mag. t.* 40.—*β. giganteum;* foliis floribusque fere quadruplo majoribus.

The var. *β.* only is in Mr Douglas' collection, and what is remarkable, no form of this species appears to have been elsewhere observed on the west side of the Rocky Mountains. The stem is from eight to fifteen inches high, the leaves three or four inches long, and 2½ or 3½ broad, spotted like those of the plant from the United States. The flowers are from 2½ to 3 inches long, and purple, as figured in the *Botanical Magazine.*

Ord. LXVI. JUNCI. *Juss.*

1. Luzula *campestris,* var. *congesta.—Hook. Flor. Bor. Am.* II. *p.* 188.

1. Juncus *Menziesii* (*Brown*); caule erecto tereti folioso, foliis lineari-acuminatis supra canaliculatis, capitulis terminalibus globosis 1-3 bractea exteriori plerumque foliacea et capitula superantibus, sepalis ovatis vel oblongis capsulam obovatam nitidam muticam æquantibus dorso viridibus enerviis margine castaneo membranaceo versus apicem involuto. —*α. Menziesii;* sepalis lato-ovatis obtusis. *Brown,—Hook. Flor. Bor. Am.* II. *p.* 192.—*β; Californicus;* sepalis oblongis acuminatis, foliis angustioribus.

We have only the second variety from California. In the Flor. Bor. Am. this was principally distinguished from *J. castaneus* by the broad sepals of *α*, and the capsule as long as the perianth. In *J. castaneus,* however, the sepals are only about half the length of the capsule, and are entirely brown, membranous and 3-nerved.

Ord. LXVII. FLUVIALES. *Rich.*

1. Zannichellia *palustris, Linn.*

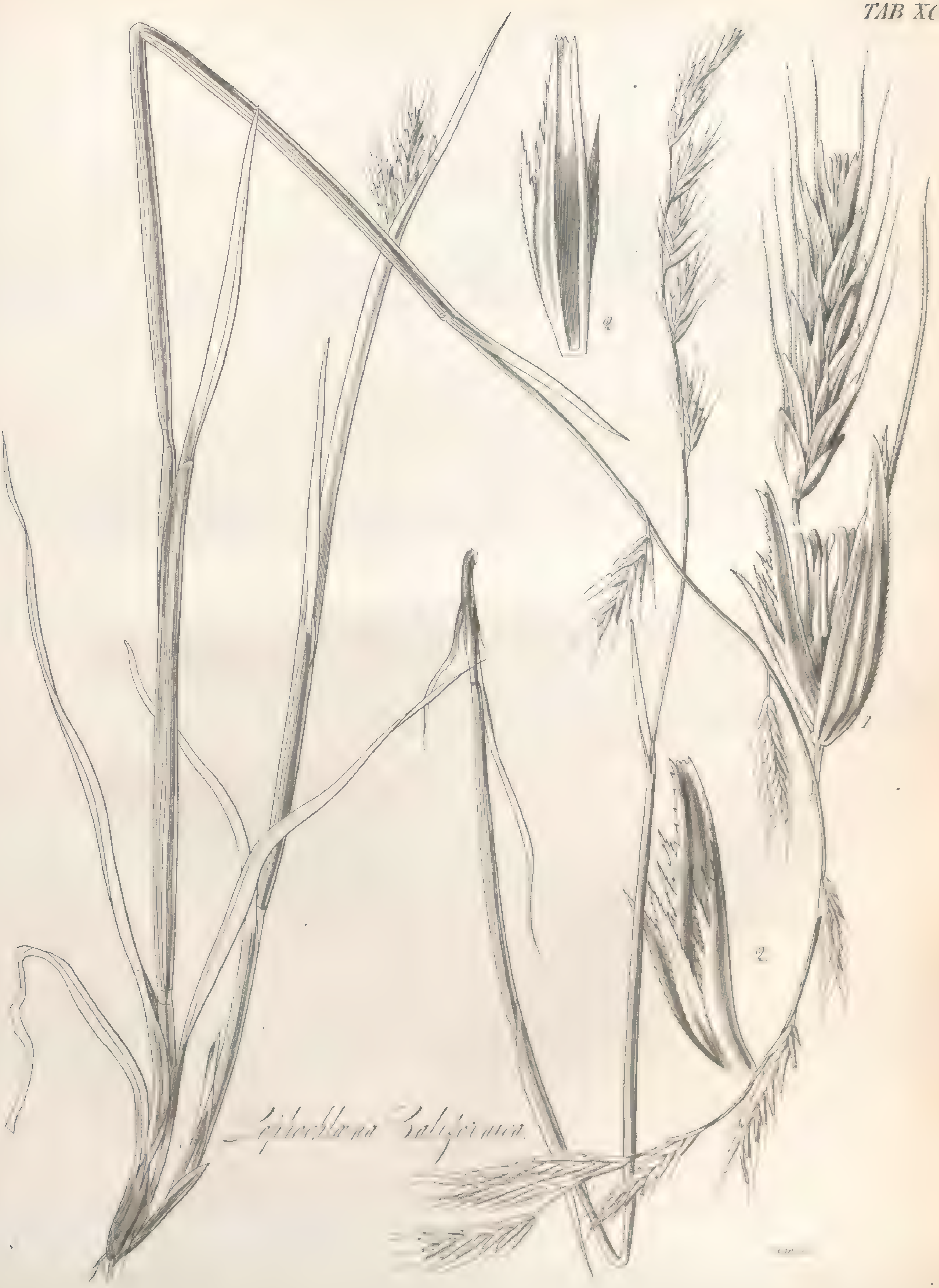
Ord. LXVIII. GRAMINEÆ. *Juss.*

1. Beckmannia *erucæformis, Host.*

1. Phalaris *minor? Retz.*

The specimens are very young.

TAB XCV.



Lophochlaena Californica.

LOPHOCHLÆNA. *Nees.*

GEN. CHAR. *Spiculæ* multifloræ, rhachilla articulata. *Glumæ* 2, membranaceæ, obscure 1-3-nerves, flosculis breviores. *Flosculi* callo truncato inserti, omnes perfecti: *valvula inferior* chartaceo-rigida, plurinervis, apice membranacea, bifida, lobis præmorso-dentatis, inter lobos setigera seta recta; *superior* plano-complicata lateribus in medio dentato-laceris apicem versus serratis; apice emarginato. *Lodiculæ* truncatæ, connatæ. *Stamina* 3, (antheris violaceis.) *Ovarium* oblongo-lineare, glabrum; *styli* breves, discreti; *stigmata* parva, plumulosa.—Inflorescentia: *racemus simplex, secundus.* Gramina *mollia.* Folia *brevia.* Spiculæ *bromoideæ, oblongo-lineares, speciosæ. Locus inter* Poas Glyceriæas *juxta* Glyceriam, *cui mediante* Glyceria (*Windsoria*) pallida *consiliatur. Forsan hæc* W. pallida, *amplificato generis nostri charactere, isti potest connecti.—Nees.*

1. L. *Californica, Nees v. Esenb. in Tayl. Ann. of Nat. Hist. v.* 1. *p.* 283. (TAB. XCV.)

TAB. XCV. *Fig.* 1. Flower; *fig.* 2. two different views of the inner or superior valve:—*magnified.*

1. Bromus *carinatus;* annuus, caule erecto, foliis linearibus pilosis vaginis deflexo-pilosis, racemo composito ramis 1-3-nis oligostachyis, spiculis sessilibus lanceolatis valde compressis, glumis lanceolatis acutissimis muticis 3-5-nerviis carinatis, flosculis patulis, glumella exteriore pubescente lanceolata ex apice bifido longe setigera carinata obscure 7-striata, interiore bicarinata ad carinas ciliata, caryopsi hinc canaliculata.

Perhaps this ought to be referred to the Genus *Ceratochloe*, but the straight seta, or awn, is almost as long as the floret, and, with the exception of the compressed spikelet, the character is entirely that of *Bromus.*

1. Melica *imperforata;* panicula composita et decomposita (ante anthesin contracta), pedicellis nudis scabro-puberulis, spiculis oblongis bi-trifloris, glumis inæqualibus obtusiusculis, superiori flosculos subæquante, valvula inferiori flosculorum perfectorum apice brevi spatio membranaceo-appendiculata 7-nervi, flosculo supremo sterili sublineari antheriformi, foliis anguste linearibus vaginisque scabris. *Nees.—Trin. Gram. Ic. t.* 355. —Melica colpodioides. *Nees v. Esenb. in Tayl. Ann. of Nat. Hist. v.* 1. *p.* 283.—Poa viridi-purpurea. *Hook. et Arn. mss.*

This has certainly not exactly the habit of a *Poa*, to which we had been disposed to refer it; and the flowers are fewer in number than usually occur in that Genus. In appearance it approaches slightly to *Eragrostis Koenigii*, and *E. interrupta*, but it unquestionably is not a species of *Eragrostis.* The glumes are membranaceous, but the florets are of a firm texture, greenish and tinged with purple, their margins white and membranaceous. We have only seen the upper portion of the plant, although the specimens are about two feet in length; the panicle is from 9 inches to a foot long. We adopt the Genus to which we find that Trinius, and since, Nees von Esenbeck, have referred it.

1. Poa serotina, *Gaud.*—Poa fertilis, *Host, Gram.* 3. *t.* 14.

Our plant resembles that of Gaudin in the spikelet, but it is more rigid, and the inflorescence is an interrupted, contracted, narrow, linear, erect panicle, the lower branches of which are shorter than the internodes.

1. Stipa *avenacea, L.*

1. Brizopyrum *spicatum.*—Uniola spicata, *Lin.*—U. stricta, *Torr. in Ann. Lyc.* I. *p.* 55.—U. multiflora, *Nutt.*—Festuca distichophylla, *Mich.*—Poa Michauxii, *Kunth.*

We can see no difference between the *Uniola spicata* of Linn. and Torrey's Flora, and the *U. stricta* of the latter author. As in *Brizopyrum* the panicle is unisexual.

2. B. *Douglasii;* glabrum, culmis fasciculatis radicantibus rigidis simplicibus, foliis erectis rigidis linearibus apice convoluto-subulatis culmum superantibus, paniculis (masculis) confertis ovatis, spiculis ovatis compressis subtrifloris glabris lævibus, flosculis imberbibus, glumella exteriore 1-2 nervi, carina margineque scabris.—Poa Douglasii. *Nees v. Esenb. in Tayl. Ann. of Nat. Hist. v.* 1. *p.* 284.

This is remarkable for its erect foliage, longer than the culms, and the short compact panicles somewhat resembling those of *Phalaris Canariensis*. Nees v. Esenbeck considers it a *Poa*, and allied to *P. tricolor, conformis, curvula, abbreviata. Br. &c.*

1. Hordeum *pratense, Huds.*

2. H. *pusillum, Nutt.*

POLYANTHERIX. *Nees.*

(Trib. Triticeæ. Locus inter *Elymum et Ægilopem.*)

Gen. Char. *Rhachis* spicæ articulata. *Spiculæ* disticho-alternæ, geminæ, rhachi oblique parallelæ, plurifloræ, subsessiles. *Glumæ* binæ, collaterales, hinc ad speciem quaternæ, profunde bifidæ, laciniis bifidis trifidisve omnibus longe setaceis, tertia (ubi adest) minima. *Flosculi* 3-4, inferiorum uno alterove sterili glumis simili, tabescente. *Fertilium valvula inferior* chartacea, ex apice bidentato bisetove longe setigera; *superior* minor, integra, marginibus inflexis, flexuræ augulis ciliatis. *Lodiculæ* lanceolatæ, integræ, ciliatæ. *Stamina* 3, antheris brevibus. *Ovarium* apice hirsutum; *styli* distantes; *stigmata* plumosa.—Gramina *specie Elymi et Hordei. Nees.*

1. P. *Hystrix, Nees v. Esenb. in Tayl. Ann. of Nat. Hist. v.* 1. *p.* 284.—Ægilops Hystrix. *Nutt. Gen.* 1. *p.* 86.

Ord. LXIX. EQUISETACEÆ. *DC.*

1. Equisetum *hyemale, L.—E. Bot. t.* 915.

Hab. San Francisco. *Dr Sinclair.*

2. E. *fluviatile, L.—E. Bot. t.* 2022.

Hab. San Francisco. *Dr Sinclair.*

Ord. LXX. LYCOPODIACEÆ. *Juss.*

1. Tmesipteris *truncata, Desv.—Hook. et Grev. Lycop. in Bot. Misc. v.* 2. *p.* 363.—T. Tannensis. *Labill. Fl. Nov. Holl.* 2. *p.* 105. *t.* 252. (*excl.* syn.).—Psilotum truncatum. *Br. Prodr. p.* 104.

Nothing has surprised us more than finding that a species of a Genus, hitherto considered as exclusively inhabiting the Polynesian islands, should be detected in the northern continent of the New World. The collection contains several specimens; and though it is barely possible that these may have been accidentally mixed up with the herbarium; yet seeing that every other plant is unquestionably *Californian*, or from the immediately adjacent territories, and that Mr Douglas had no intercourse with New Holland, where alone the species has hitherto been found, we are bound to believe it a Californian plant, and to introduce it as such. The specimens are very perfect, and some of them in fructification.

Ord. LXXI. FILICES. *Juss.*

1. Polypodium (Marginaria) *Californicum, Kaulf.—Hook. et Arn. supra, p.* 161.—Marginaria, *Presl.*

San Francisco. *Dr Sinclair.*—Presl refers this to his genus *Marginaria*, whose essential character is to have the upper veinlets uniting with the nearest opposite ones, so as to form hexagonal areolæ, in which is situated the sorus at the extremity of a lower veinlet. But in this plant the veinlets are sometimes entirely free, and when the union does take place, it is only near the margin.

2. P. (Eupolypodium) *intermedium;* fronde lato-lanceolata membranacea pellucida fere ad rachin pinnatifida, laciniis oblongis obtusis æquilatis serratis glabris, venulis distinctis liberis rarissime sub margine anastomosantibus, soris ovalibus solitariis.

San Francisco. *Dr Sinclair.*—Allied to the preceding *P. Californicum*, and to *P. vulgare;* from the former it differs in the almost entirely free veinlets, from the latter in its oblong or oval sori, and from both in the pellucid, not opaque frond, and in the laciniæ becoming smaller at the base. Although this must be referred to the true *Polypodium* of Presl, yet the veinlets do occasionally unite so as to form an elongated and somewhat hexagonal areola in which a veinlet, terminated by a sorus, is included.

1. Gymnogramma *triangulare, Kaulf.—Hook. et Grev. Ic. Fil. t.* 315. *Hook. et Arn. supra, p.* 161.

San Francisco. *Dr Sinclair.*

1. Aspidium (Polystichum) *munitum, Kaulf.—Hook. et Arn. supra, p.* 162.

San Francisco. *Dr Sinclair. Douglas.*

2. A. (Lastræa) *patens, L.—Sw.—Willd.*—Polypodium nymphale. *Schkuhr, Fil. t.* 34.

San Francisco. *Dr Sinclair.*

3. A. (Lastræa) *argutum, Kaulf.—Hook. et Arn. supra, p.* 162.

San Francisco. *Dr Sinclair. Douglas.*

1. Woodwardia *radicans, Willd.—Hook. et Arn. supra, p.* 162.

Hab. San Francisco. *Dr Sinclair. Douglas.*

1. Pteris *lanuginosa;* frondis tripartitæ ramis bipinnatis, pinnulis subtus piloso-lanu-

ginosis lineari-lanceolatis inferioribus pinnatifidis, laciniis obtusis, stipite muricato, rachibus partialibus lanuginosis. *Kaulf.—Willd. Sp. Pl. v.* 4. *p.* 403. *Kaulf. Enum. Fil. p.* 189.

San Francisco. *Dr Sinclair.*—Very nearly allied to *Pt. aquilina* and *Pt. caudata.*

2. P. (Allosorus, *Presl.*) *andromedæfolia;* frondibus bipinnatis, pinnis patentibus, pinnulis subtrifoliatis, foliolis oblongo-ovatis nervosis margine revolutis. *Kaulf. Enum. Fil. p.* 188.

California. *Chamisso. Douglas.*—" *Caudex* repens, ramosus, crassitie *pennæ columbinæ*, paleis ferrugineis dense tectus, radiculis filiformibus tomentosis fibrillosis instructus. *Frondes* 4-6 pollicares (fere ad pedalem). *Pinnæ* remotæ, patentes, *inferiores* bipinnatæ, *superiores* pinnatæ, pinnulis inferioribus trifoliolatis; *foliola* bilinearia, ovata, obtusa, petiolata, supra nervosa, margine revoluta, caduca. *Stipes* 2-4-pollicaris, teres, crassitie chordæ mediocris, paleis sparsis obsitus. *Raches partiales* tenuissimæ, fragiles. *Indusium* breve." *Kaulfuss.*—A very distinct and well-marked species.

ORD. LXXII. MUSCI. *Juss.*

1. Neckera *Californica*, *Hook. et Arn. supra*, *p.* 162.

San Francisco. *Dr Sinclair.*

1. Pterogonium *julaceum*, *Hedw.*

San Francisco. *Dr Sinclair.*

ORD. LXXIII. LICHENES. *Ach.*

1. Borrera *leucomela*, *Ach.*

San Francisco. *Dr Sinclair.*

1. Ramalina *homalea*, *Ach.—Hook. et Arn. supra*, *p.* 163.

1. Usnea *barbata*, *Ach.*

San Francisco. *Dr Sinclair.*

ORD. LXXIV. ALGÆ.* *Juss.*

TRIBE 1. FUCOIDEÆ.

1. Fucus *vesiculosus*, *L.—Harv. supra*, *p.* 163.—*β. spiralis. Turn.—Ag. Syst. p.* 276.

San Francisco. *Dr Sinclair.*

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* By the Honourable W. H. Harvey.

2. F. *furcatus*, *Ag. Syst. p.* 279. *Harv. supra, p.* 163.

San Francisco. *Dr Sinclair.*

1. Cystoseira *Douglasii* (*Harv.*); caule tenui lævi alternatim ramoso, ramis decompositis pinnato-dichotomis, axillis rotundatis, vesiculis ellipticis concatenatis in ramulis immersis.

Stem slender, ½ a line to a line in diameter, compressed, smooth, 12 inches long or more, furnished with alternate, much divided branches, at distances of an inch or upwards; the branches pinnated, the lower pinnæ simple or forked, the upper multifid in a sub-dichotomous manner; all the axils rounded and the ramuli erect, apices attenuated. Vesicles as large as vetch-seed, 4-12 or more together, forming a moniliform chain, imbedded in the most of the ramuli. Receptacles and root unknown. Hab. Monterrey. *Douglas.*

1. Halydrys *osmundacea* (*Harv.*)—Fucus osmundaceus, *Turn. Hist. t.* 105.—Cystoseira osmundacea, *Ag. Syst. p.* 287.

Monterrey. *Douglas.*

Tribe 2. LAMINARIEÆ.

1. Laminaria *saccharina*, *Lamour.*—Fucus saccharinus. *Linn.*—*Turn. Hist. t.* 163.

San Francisco. *Dr Sinclair.*—The lamina of the frond is remarkably narrow.

1. Macrocystis *pyrifera*, *Ag. Syst. p.* 292.—Fucus pyriferus. *Linn.*—*Turn. Hist. t.* 110.

San Francisco. *Dr Sinclair.*

2. M. *Menziesii*, *Ag. Syst. p.* 293.—Fucus Menziesii. *Turn. Hist. t.* 27. *Harv. supra, p.* 163.

San Francisco. *Dr Sinclair.*

1. Alaria *esculenta*, *Grev.*—Fucus esculentus. *Turn. Hist. t.* 117.

San Francisco. *Dr Sinclair.*—The specimen very imperfect.

Tribe 3. FLORIDEÆ.

1. Delesseria *platycarpa*, *Ag. Syst. p.* 252.—Fucus platycarpus. *Turn. Hist. t.* 144.—*Harv. supra, p.* 163.

Monterrey. *Douglas.*

1. Hymenema *fissa*, *Grev.*—Fucus venosus. *Turn. Hist. t.* 138.—β. marginata, *Harv.* capsulis marginalibus.

A very remarkable variety, perhaps a distinct species. The veins are stronger and more prominent than in Cape specimens, and the capsules confined to the margin or borne on small, roundish, marginal processes or leaflets. The granuliferous specimens present no remarkable characters. Hab. San Francisco. *Dr Sinclair.*

1. Plocamium *coccineum*, *Lyngb.*—Fucus coccineus, *Turn. Hist. t.* 59. *Harv. supra, p.* 163.

San Francisco. *Dr Sinclair*.

1. Rhodomenia *polycarpa*, *Grev. Crypt. Fl. t.* 352. *Harv. supra, p.* 164.

STENOGRAMMA. *Harv.*—(*Gen. Nov.*)

Frons membranacea, rubra, plana, enervis. *Fructificatio*: 1.—? 2. receptacula linearia, nerviformia, in frondem sessilia, granulis minutissimis repleta.

1. S. *Californicum*, *Harv.*

Root unknown. *Stem* minute, cylindrical, gradually expanding into a broadly cuneate, dichotomously cleft, flat, membranaceous frond about six inches long; the segments cuneate, about half an inch broad, obtuse at the apices; the axils rounded. *Margin* entire, bearing here and there linear-oblong or slightly lanceolate leaflets (which perhaps in older specimens become dichotomously cleft?) *Fruit*, so far as known, consists in linear, dark-red, elevated receptacles, not half a line in breadth, and from half an inch to upwards of an inch in length, extending longitudinally through the centre of the terminal segments, or of the marginal leaflets, and resembling a very strong prominent rib. These *receptacles* are completely filled with a dense mass of minute granules, their coat or periphery is opaque and resembles that of the frond. *Colour* a full red; substance membranaceous; reticulation minute.

Hab. San Francisco, *Dr Sinclair*.—A single specimen only of this very remarkable plant exists in the herbarium, and on it I have ventured to establish a new genus. In habit it so closely resembles *Phyllophora rubens*, that it might easily be passed over as that plant. But the fructification is not only totally different from that of *Phyllophora*, but resembles nothing with which I am acquainted among the Algæ, while it bears a striking resemblance to the *lirellæ* of the genus *Opegrapha*, among Lichenes. From the minute size of the sporules contained in the mass with which the receptacles are full, I am induced to consider these curious bodies as *secondary* fructification, the *primary* being probably sphærical capsules. The affinities of the genus are with *Phyllophora*.

1. Laurencia *pinnatifida*, *Lamour.*—Fucus pinnatifidus. *Turn. Hist. t.* 21.

Monterrey, *Douglas*.

1. Chondrus *vermicularis?* *Grev.*—Fucus vermicularis. *Turn. Hist. t.* 221. *Harv. supra, p.* 164.

Monterrey, *Douglas*.

2. C. *affinis* (*Harv.*); fronde plana dichotoma, segmentis cuneatis, margine subinflexo, capsulis sphæricis sparsis.

1-2 inches high, dark purple, densely tufted. It is allied to *C. crispus*, but differs in the sphærical capsules abundantly scattered over the frond and prominent on both surfaces, and in having the margin somewhat inflexed; by which latter character it approaches *C. canaliculatus*, but in that species the capsules are marginal.

1. Gelidium *corneum*, *Lamour.*—Fucus corneus. *Turn. Hist. t.* 257. *Harv. supra, p.* 164.

San Francisco, *Dr Sinclair*. Monterrey, *Douglas*. Two varieties exist in the herbarium.

2. G. *lanceolatum, Harv. supra, p.* 164.

Monterrey, *Douglas.*

1. Gigartina *canaliculata* (*Harv.*); fronde erecta compressa canaliculata basi simplici, apice creberrime bipinnata, pinnulis patentibus subulatis vel multifidis, ramulis aculeiformibus, capsulis inter aculeos sessilibus.—Gelidium corniculatum, *Harv. supra, p.* 164. (*not of Grev.*)

Root accompanied by creeping fibres. *Stem* erect, 2-3 inches high, a line broad, compressed, channelled on one side, linear, simple or once or twice forked, and bare of ramuli for three-fourths of its length; thence upwards it is pinnated, or in old specimens bipinnated, the pinnæ and pinnulæ alternate, horizontal, subulate, very acute; the pinnulæ in some specimens simple, in others cleft at the apex into 3-5 or more divaricating spine-like ramuli. *Capsules* minute, depressed in the centre, of the same substance and colour as the frond, seated on the multifid pinnules. *Substance* cartilaginous. *Colour* a dull purple, paler in the ramuli, becoming much darker in drying.—In a young state this species bears a striking resemblance to Turner's figure of *Fucus corniculatus, t.* 182, and at *p.* 164 of the present work I have noticed it as such. But more perfect specimens, since received, prove that it is perfectly distinct from that and every other described species. The channelled stem, naked for its greater length, and the dense head of multifid spine-like ramuli sufficiently mark the species.

San Francisco, *Mr Douglas.*

2. G. *muricata* (*Harv.*); pusilla, fronde filiformi cartilaginea subdichotoma spinulis minutissimis acutis muricata, apicibus divaricatis acutis, capsulis sphæricis sessilibus.

An inch high, densely tufted, cylindrical, irregularly divided in a subdichotomous manner, the upper divisions patent, the whole frond rough with minute thorns. Capsules large, sphærical, solitary on the ramuli. Colour a deep purple.

San Francisco, *Dr Sinclair.*

TRIBE 4. GASTROCARPEÆ.

1. Iridæa *papillata, Grev.*—Sphærococcus papillatus, *Ag. p.* 222.—*Harv. supra, p.* 165.

San Francisco, *Dr Sinclair.* Monterrey, *Douglas.*

2. I. *Radula, Grev.*—Fucus bracteatus, *Turn. Hist. t.* 25.

San Francisco, *Dr Sinclair.* Monterrey, *Douglas.*

3. I. *stiriata, Grev.*—Fucus stiriatus, *Turn. Hist. t.* 16.

TRIBE 5. ULVACEÆ.

1. Porphyra *vulgaris, Ag.*

San Francisco, *Dr Sinclair.*

1. Diatoma *obliquatum, Ag.*—Conferva obliquata, *Eng. Bot. t.* 1869.

Parasitical on *Stenogramma Californicum*, on which plant I also perceived a specimen of that curious minute genus of Zoophytes, *Actinocyclis.*

MEXICO.—SUPPLEMENT.

The plants noticed in the following Supplement were gathered by Dr Sinclair, Surgeon of H. M. surveying Ship, Sulphur, and transmitted to us at the request of Captain Beechey. They were collected at *San Blas*, or between *San Blas* and *Tepic*, in about lat. N. 22°, in December, 1837; at *Acapulco*, N. lat. 17°, in January, 1838; or at *Realejo*, N. lat. 12° 45″, in February, 1838. This latter place indeed belongs to Guatemala; but the Flora of that country, judging from what little we know of it, is so similar to that of Mexico, that we have no hesitation in including all under the general head of Mexican Plants.

Ord. I. RANUNCULACEÆ. *Juss.*

1. Clematis *Acapulcensis;* floribus paniculatis dioicis, foliis triternatim sectis, foliolis subcordato-ovatis acuminatis integerrimis 5-nerviis membranaceis glabris, acheniis lato-ovatis rostratis sericeis, cauda elongata valde barbato-plumosa.

Hab. Acapulco.

Ord. II. MENISPERMACEÆ. *Juss.*

1. Cocculus *oblongifolius* (*DC.*); foliis oblongis trinerviis utrinque obtusis mucronatis glabris, pedunculis folio brevioribus supremis subracemosis, masculis 4-10 floris, floribus subcorymbosis brevipedicellatis, femineis unifloris.—*De Cand. Prod.* 1. p. 99.

Hab. Acapulco.

Ord. III. PAPAVERACEÆ. *Juss.*

1. Argemone *Mexicana, L.*

Hab. San Blas to Tepic.

Ord. IV. CISTACEÆ. *DC.*

1. Helianthemum (Heteromeris) *polifolium. Torr. et Gray, Flor.* I. *p.* 151.—Heteromeris polifolia. *Spach.*

Hab. San Blas to Tepic.

Ord. V. POLYGALEÆ. *Juss.*

1. Polygala *rivinæfolia, H.B.K. Nov. Gen.* V. *p.* 409. *t.* 512.

Hab. Acapulco.

This solitary specimen appears suffruticose; Kunth describes his as herbaceous; but the species appears the same.

ORD. VI. LINEÆ. *DC.*

1. Linum *Schiedeanum* (*Schl. et Cham.*); glabrum gracile adscendens suffruticosum, foliis quaternis verticillatis vel superioribus oppositis, obovato- vel lineari-lanceolatis basi attenuatis, floribus cymosis, bracteas sepalisque glanduloso-ciliatis, floribus flavis.—*Ch. et Schl. in Linnæa*, V. *p.* 234.

HAB. San Blas to Tepic.

ORD. VII. MALVACEÆ. *Juss.*

1. Pavonia *Mexicana, H.B.K.?*

HAB. Acapulco.

Of our plant there is but one specimen, which has a decidedly shrubby stem, and the leaves are cordato-ovate, and acuminated, in which two points it differs widely from Kunth's description. It can scarcely be his *P. mollis.*

1. Gossypium *Barbadense,* L.?

HAB. San Blas to Tepic.

None of the described varieties of Cotton agree precisely with the one before us. The stem is almost glabrous, purplish, woody and dotted with black points; leaves glabrous, dotted, cordato-ovate, entire or three-lobed, the lobes broadly ovate and acuminated; middle nerve with a gland a little above the base, leaves of the involucel laciniate, glabrous. The fruit, seeds and wool, we have not seen.

1. Anoda *hastata, Cav.—Schlecht. in Linnæa,* XI. *p.* 214.—Sida centrota, *Spr.*

HAB. Tepic to San Blas; and Acapulco.

2. A. *lanceolata;* foliis oblongo-lanceolatis acuminatis crenatis nunc ad medium utrinque unidentatis subtus velutinis supra scabridis, pedunculis folium æquantibus calyceque scabro-velutinis, sepalis floriferis ovatis obtusis fructiferis in acumen obtusiusculum margine involutum attenuatis, corolla (flava?) 9 lin. longa calycem triplo superante, fructu e carpidiis sub-10 brevissime mucronatis composito.

HAB. Tepic to San Blas.

1. Sida *rhomboidea, Roxb.*—L. obliqua, *Flor. Mex. ined.?*

HAB. Tepic to San Blas.

This differs principally from *S. rhombifolia* by the carpels being awnless or at most two-toothed, and certainly not birostrate.

2. S. *carpinifolia, L.*—var. carpellis bidentatis haud birostratis.

HAB. Tepic to San Blas.

We may here remark that *S. carpinoides* DC., referred by some as a variety to *S. carpinifolia*, is *Malva tricuspidata,* Ait.

3. S. *dumosa, Sw.*

Hab. Realejo.

This agrees well with a specimen from Jamaica.

1. Bastardia *crispa, St. Hil.*—Sida crispa, *L.*—Abutilon crispum, *G. Don.*

Hab. Acapulco.

2. B. *viscosa, Kunth.*—Sida viscosa, *L.*

Hab. Acapulco.

Ord. VIII. BYTTNERIACEÆ. *Kunth.*

1. Waltheria *Americana, L.*

Hab. Acapulco.

1. Riedleia *nodiflora, DC.*—var. angustifolia.

Hab. Acapulco.

2. R. *serrata, Vent.*—var. angustifolia, *Schlecht. in Linnæa*, XI. *p.* 375

Hab. Acapulco.

Ord. IX. MALPIGHIACEÆ. *Juss.*

1. Tetrapteris *Acapulcensis, H.B.K.*

Hab. Acapulco.

1. Triopteris *sericea, Schl. in Linnæa*, X. *p.* 243.—*Hook. et Arn. supra, p.* 280.

Hab. Acapulco.

1. Banisteria *splendens, DC. Prod.* I. *p.* 588.

Hab. Realejo.

1. Heteropteris *tomentosa, H. et A. supra, p.* 281.

Hab. Acapulco.

Ord. X. SAPINDACEÆ. *Juss.*

1. Cardiospermum *microcarpum, H.B.K.?*

Hab. San Blas to Tepic.

We have only seen one capsule, and that is in an imperfect state and burst open; it appears glabrous.

1. Urvillea *Berteriana, DC.*

Hab. Realejo.

Our specimen agrees tolerably well with the imperfect description given by De Candolle; but his plant is from St Martha. We possess however a plant from St Vincent, which may be the same, but it is scarcely specifically distinct. The leaves are much longer than in *U. ulmacea*, and irregularly and coarsely toothed.

1. Serjania *racemosa, Schum.*

Hab. Realejo.

1. Paullinia *Curassavica, L.*

Hab. Realejo.

Ord. XI. MELIACEÆ. *Juss.*

1. Swietenia *Mahogoni, L.*

Hab. Realejo.

Ord. XII. OXALIDEÆ. *DC.*

1. Oxalis *Neæi, DC. Prod.* 1. *p.* 689.

Hab. Acapulco.

Ord. XIII. TEREBINTHACEÆ. *Juss.*

1. Rhus *terebinthifolia, Schlecht.—Hook. et Arn. supra, p.* 284.

Hab. San Blas and Tepic.

2. R. *macrophylla;* foliis pinnatis subsexjugis cum impari, foliolis ellipticis sinuatis basi apiceque obtusissimis supra glabriusculis subtus puberulis, paniculis terminalibus folio duplo triplove brevioribus gracilibus, floribus glomeratis sessilibus, calycibus pubescentibus.

Hab. Acapulco.—Remarkable for the large size of the leaves, 1½ to 2 feet long, with leaflets 4 to 6 inches in length; these latter are exactly elliptical, bluntly and broadly serrated at the margin, upon very short petiolules, marked with very straight nearly transverse nerves and these again connected by reticulated nervelets. To the eye they appear glabrous, but beneath under the microscope, are seen to be downy, especially on the nerves and on the younger leaflets. The branches of the panicle and the calyces are likewise downy.

Ord. XIV. LEGUMINOSÆ. *Rich.*

1. Crotalaria *ovalis, Ph.—Hook. Bot. Mag. t.* 3006. *Hook. et Arn. supra, p.* 284.—C. sagittalis γ. ovalifolia. *Ph.*—C. sagittalis, var. *Schlecht. in Linnæa, v.* 12. *p.* 278.

Hab. San Blas to Tepic.

2. C. *bupleurifolia;* leviter pubescenti-pilosa, caule angulato subulato dichotome ramoso, foliis brevissime petiolatis ovato-ellipticis utrinque obtusis (lineari-lanceolatisque acutis) mucronatis, floribus subgeminis pedunculatis prope basin ramorum, bracteis subjunctis oppositis stipuliformibus decurrentibus apice hastato-acuminatis. *Schlecht. in Linnæa,* 5. *p.* 575. *Hook. Ic. Pl. t.* 382.—β. foliis superioribus lineari-lanceolatis acutis.—γ. foliis omnibus lineari-lanceolatis acutis.

Hab. β. and γ. San Blas to Tepic.—Our plants so far accord with the description of Schlechtendal of his *C. bupleurifolia,* that we have little hesitation in considering them the same. What we take for the type of the species, as characterized by the learned author, has been lately figured in the *Icones Plantarum* above quoted, from a specimen from Xalapa. In a subsequent volume of the *Linnæa,* Schlechtendal observes (v. 12. p. 279.) "hæc nova species valde nobis est suspecta, serius enim accepta exemplaria, præsertim prope Chiconquiaco lecta, foliis angustatis stipulisque minus prosilientibus, tantopere ab illa *sagittalis* accedunt ut difficile et artificialiter quasi, magnitudine, colore intensiore paginæ superioris, et glauco inferioris possint distingui." Our specimens certainly approach the forms now noticed, and even in our small collection we distinguish two varieties, as above mentioned.

3. C. *Tepicana;* annua parva dichotoma adpresso-pubescens, foliis sublonge petiolatis, trifoliolatis, foliolis obovato-cuneatis obtusissimis, stipulis minutis subulatis patentibus, pedunculo folio opposito et eo vix longiore 1-3-floro, carina vexillum superante, leguminibus oblique ellipticis puberulis.

Hab. Tepic.—*Radix* annua, parva. *Caulis* erectiusculus, spithamæus et ultra, gracilis, dichotome ramosus, ramis angulatis canescenti-pilosis, pilis brevibus appressis. *Folia* petiolata (petiolo gracili longitudine circiter foliorum) trifoliolata: foliolis brevissime petiolulatis, obovatis, cuneatis, obtusissimis non raro retusis cum mucronulo, pilis brevibus appressis pubescentibus. *Stipulæ* valde minutæ, subulatæ, patentes. *Pedunculi* folio oppositi, graciles, vix folia superantes, 1-3-flori. *Flores* parvi, lutei, pedicellati, pedicellis minute bracteatis. *Calyx* appresso-pilosus. *Vexillum* calyce duplo longius, carina paulo brevius.

We cannot refer this small and inelegant *Crotalaria* to any described species. We possess indeed what appears to us to be the same from the island of St Vincent. It approaches the *C. dichotoma* of Graham in Bot. Mag. t. 2714, but that is a fruticose species with lanceolate acute leaflets, and much larger flowers: still the two plants belong to the same natural group of this extensive genus.

4. C. *longirostrata, Hook. et Arn. supra, p.* 285.

Hab. Acapulco.—Fruit elliptico-cylindrical, obtuse, with a rather deep furrow on the upper suture, very indistinctly puberulous.

5. C. *Acapulcencis;* fruticosa dichotoma, ramis teretibus junioribus angulatis pubescentibus, foliis petiolatis trifoliolatis, foliolis anguste lanceolatis intermedio subduplo longiore, stipulis minutis erectis subulatis deciduis, racemis multifloris oppositifoliis folio multo longioribus, vexillo carinam margine ciliatam superante, legumine cylindraceo.

Hab. Acapulco.—Our specimens are a foot or more long, and appear to be only small branches of the plant. The leaves, except in a very young state, are destitute of pubescence: the middle leaflets 1½ or 2 inches long, about twice the length of the lateral ones, all of them narrow, lanceolate, and very acute. The racemes are much longer than the leaves and elongate in fruit very remarkably, so that in that state they are

a span or more long. Fruit 1½ to 2 inches long, cylindrical, hard, slightly downy, containing 20 or more shining brown compressed seeds. Flowers yellow, as large as those of *C. verrucosa.*

6. C. *incana, L.—De Cand. Prodr.* 2. *p.* 132. *Ker, Bot. Reg. t.* 377. *Cav. Ic.* 4. *t.* 322.

Hab. Acapulco.—Our plant agrees well with the figure in Bot. Reg., of which the specimen was collated with an authentic Linnæan one. The leaves, however, differ considerably from those figured by Cavanilles, and probably the plant itself is very variable. The carina has the lower edge fringed with white down. We have what we consider the same species from St Vincent, but there the hairs on the underside of the leaves are tawny, giving a golden, instead of a hoary hue to that part of the plant. The *C. bracteata* of Roxb., a native of the East Indies, is very similar to this: but the leaflets are larger, quite glabrous on both sides, and the petioles are shorter.

1. Indigofera *lespedezoides;* fruticosa, foliis pinnatis, foliolis trijugis subcuneato-lanceolatis apice rotundatis et mucronatis basi acutis utrinque ramulisque strigulosis subtus glaucescentibus, racemis multifloris breviter pedunculatis folia superantibus, leguminibus reflexis compressiusculis rectis suboctospermis. *H.B.K. Nov. Gen. v.* 6. *p.* 455. *De Cand. Prodr.* 2. *p.* 226.

Hab. Realejo.—Branches long, slender, much curved. Legumes closely reflexed, an inch and more long, remarkably slender, coming to a very acute point. A second species of the genus is in this collection, but too imperfect for description, it approaches the one just noticed; but the pods, if they be in a perfect state, are not half the length of those of *I. lespedezoides.* It is from Acapulco.

1. Cyanostremma *cæruleum, Benth. mst.*—Stenolobium cæruleum, *Benth. in Ann. Mus. Vind.* 2. *p.* 125. *et in Tayl. Ann. Nat. Hist.* 2. *p.* 436.

Hab. Realejo.—A very handsome climbing and twining plant, with large ternate leaves: the middle leaflet rhomboidal, on a rather long petiole; the lateral ones on very short petiolules, half rhomboidal, soft and downy, the underside densely clothed with velvety tomentum, whitish, but with a slight golden tinge: all of them very obtuse. Peduncles axillary, bearing long racemes, about equal in length with the leaves. Flowers crowded and in clusters, so as to form an interrupted raceme, patent or reflexed. Calyx clothed with tawny hairs, subtended by small bracteas covered with white hairs. Mr Bentham observes that this is a widely diffused and apparently a common plant; "besides the numerous specimens gathered by Pohl, Martius, Salzmann, and others in various parts of Brazil, it is found in the isle of St Vincent's, and in central America. It is Cuming's n. 1097 from Panama."

1. Galactia *tuberosa;* caule volubili reflexo-piloso, foliolis elliptico-ovatis acutis mucronulatis supra glabris subtus strigillosis, floribus axillaribus geminis subsessilibus et foliis abortivis summis interrupte spicatis (radice tuberosa oblonga. *DC.*)—*De Cand. Prodr.* 2. *p.* 238.

Hab. Between San Blas and Tepic.—This has much the habit of *G. glabella,* Mich.;—but it differs in its hairiness, in its much larger very acute leaflets, considerably smaller flowers and different inflorescence. The flowers are scarcely half an inch in length. Immature legumes about an inch long, clothed with tawny velvety hairs. De Candolle's description of his *G. tuberosa* is very brief and unsatisfactory; yet, as far as it goes, it corresponds with our plant, and is also a native of Mexico.

1. Tephrosia *toxicaria, Pers. Syn.* 2. *p.* 328.—*De Cand. Prodr.* 2. *p.* 249. *Benth. in Ann. of Nat. Hist.* 2. *p.* 431. *Hook. et Arn. supra, p.* 287.—T. Schiedeana, *Schlecht. in Linnæa, v.* 12. *p.* 299. (*ex. descr.*)

Hab. Acapulco.—This is n. 1170 of Mr Cuming's Panama collections, and n. 173 of the Guiana Herbarium of Mr Schomburgk, who observes that in the dry Savannahs of the Rio Rupunnoony it is called "Yarro conalli," and is used for poisoning the fish called "Yarro," which will not eat the "Hiarry" (*Strychnos toxicaria*, Schomb.) *Benth.*—I have often received specimens from St Vincent, to which island I suspect it was introduced from Guiana by Mr Anderson. The leaves vary in the size of the leaflets, and in the form of their point, sometimes acute, sometimes obtuse or retuse, and sometimes deeply emarginate. We think from Schlechtendal's description there can be no hesitation in referring his *T. Schiedeana* to this place.

1. Centrosema *Virginiana, Benth.*—Clitoria Virginiana, *L.*—*De Cand. Prodr.* 2. *p.* 234.

Hab. Realejo.

2. C. *Plumieri, Benth.*—Clitoria Plumieri, *Turp.*—*DC. Prodr.* 2. *p.* 234. *Ker, Bot. Reg. t.* 268. *Macfadyen, Fl. of Jamaica, p.* 253.

Hab. Realejo and Acapulco.—A common plant in the tropical parts of South America, and in the West Indies, and a very handsome one in a recent state; but its beautiful white and rose-coloured flowers turn quite black in drying. Dr Macfadyen says they are called *fee-fee* in Jamaica, from the noise made by the negro children in blowing through the flowers.

1. Canavalia *multiflora.*—Neurocarpum multiflorum, *Hook. et Arn. supra, p.* 286.

Hab. San Blas to Tepic.—From our former Mexican collection we were only acquainted with the fruit of this plant; in the present we have flowering specimens. The blossoms are clothed with tawny silky hairs; upper lip very large, broadly obovate, lower lip very small and narrow. Corolla rose-colour.

1. Dalea *gracilis, Hook. et Arn. supra, p.* 287.

Hab. San Blas to Tepic.

2. D. *elata;* herbacea, glabra, caule erecto tereti ramosissimo glabro, ramis elongatis strictis, foliolis 4-6-jugis ellipticis subtus glaucis nigro-punctatisque, spicis (fructiferis) densis multifloris elongatis cylindraceis flexuosis, bracteis lanceolatis acuminatis longitudine calycis, calyce glabro nitido 10-striato interstitiis resinoso-glandulosis dentibus subulatis longe plumoso-sericeis, legumine apice truncato.

Hab. Acapulco.—Our specimens of this handsome *Dalea* are 2-3 feet long, and yet seem to be but small portions of the entire plant. The leaflets are small, obtuse, or only mucronate, destitute of dots above. The specimens are all in fruit: and in that state the spikes are 3-5 inches in length, and more than ½ an inch broad; at first sight, apparently, everywhere clothed with long, silky hairs; but on close inspection it will be found that these hairs are partially situated. There are a few at the base of the calyx, but the exterior surface of the calyx is not only glabrous, but glossy as if varnished; the ovate tube has ten elevated ribs, and between the ribs are linear, elevated, resinous dots; the subulate teeth of the calyx (about equal in length with the tube) are clothed at the margin with long, dense, silky hairs, so that, the flowers being imbricated, the hairs seem to clothe the whole spike. The legume is shorter than the tube of the corolla, which it entirely fills, one-seeded, subglobose, but with the top coming to a sharp truncated edge. The bracteas are membranaceous and exhibit no glands. The plant seems to be entirely herbaceous; and, as far as can be perceived from the withered remains of its flowers, these are white or cream-coloured.

3. D. *elegans? Hook. et Arn. Bot. of S. Am. in Bot. Misc. v.* 3. *p.* 183.

Hab. Tepic.—The single specimen is in an imperfect state; but, so far as we can judge, it seems scarcely to differ from our *D. elegans* from the El Cerro del Morro in the province of San Luis, S. America. The flowers are, however, smaller, but of the same colour; and less injured specimens would, in all probability, present important distinguishing characters.

1. Astragalus (§ Ciceroideæ) *ervoides;* puberulus, caule gracili elongato ramoso, foliolis 15-17 remotis lineari-oblongis obtusis, stipulis lanceolatis parvis, pedunculis axillaribus folio longioribus racemosis, racemis 10-12-floris, calyce brevi-ovato oblique obtuse 5-dentato dentibus brevibus subæqualibus (pedicellisque) nigris, corolla (flava) calycem subduplo superante, leguminibus linearibus deflexis curvatis acutis glabris.

Hab. San Blas to Tepic.—Our portions of this plant measure less than a foot, slender, they are branched and straggling, herbaceous. Leaflets about half an inch long. Flowers of the same length, soon reflexed. The short cup-shaped calyx, with its obliquely 5-toothed mouth, has a few dark-coloured short hairs scattered over the surface, yet so as scarcely to affect the greenish colour; but the short teeth and the pedicels are quite black.

1. Stylosanthes *Guianensis, Sw.—De Cand. Prodr.* 2. *p.* 318. *Benth. in Ann. of Nat. Hist.* 2. *p.* 434.

Hab. Realejo.—A tall growing plant, with rather large, lanceolate leaflets, acuminate at both extremities. Flowers collected into large, dense capitula which are clothed with long spreading fulvous hairs. The same species is common in Brazil and Peru, as well as in Guiana.

1. Desmodium *heterophyllum;* erectum hirsutum, foliis simplicibus late ovatis obtusis supremis trifoliolatis, foliolis ovatis intermedio duplo triplove majore, stipulis bracteisque acuminatis rigidis striatis.

Hab. Realejo.—There is no fruit on the solitary specimen, nor any perfect flowers; but the foliage is unlike any with which we are acquainted. The leaves are in general simple, 2 or more inches long, on slender petioles about an inch long, with a pair of small stipules near the summit; the uppermost leaves are much smaller and trifoliolate.

2. D. *incanum*, Sw. (*sub* Hedys.) *Macfad. Jam.* I. *p.* 265.—*β. supinum.*—D. supinum, *Sw. DC.*

Hab. *β.* Realejo.—This is a common plant in Jamaica, and I possess the same from Mr Cuming (his n. 1023); and Dr Macfadyen has clearly shown that *D. supinum* is only a variety of *D. incanum*, produced by weakness.

3. D. *plicatum, Schlecht. in Linnæa, v.* 5. *p.* 585. *Hook. et Arn. supra, p.* 287.

Hab. San Blas and Tepic.

4. D. *podocarpum;* elatum herbaceum, caule ramisque angulatis, foliolis (3) ovatis sub-

acuminatis, stipulis subulatis recurvis, paniculis in ramos terminalibus, pedicellis (sæpe) aggregatis elongatis gracillimis, floribus parvis, legumine 3-4 spermo spiraliter torto longissime gracillimeque stipitato, stylo longo rostrato. (TAB. XCVI.)

HAB. Acapulco.—A tall-growing plant (3-4 or more feet high), with rather large membranaceous leaves (the larger leaflets 2-3 inches long), glabrous in almost every part, except the petiolules and the lower margin of the leaflets which are ciliated. Panicle terminal, elongated, slender, with numerous, straight, diverging, capillary, very straight pedicels, an inch long. Corolla very deciduous, and the ovary soon becomes twisted and lengthened upon a much elongated and slender stalk, sometimes almost equal in length to the pedicel of the calyx, giving the fruit a very remarkable appearance. The style also is long. Seed twisted!

Desmodium podocarpum. *Fig.* 1. Flower; *fig.* 2. Pistil, and *figs.* 3. 3. more advanced fruits; *fig.* 4. Seed: —*magnified.*

5. D. *triflorum, DC.—Hook. et Arn. supra, p.* 287.

HAB. Acapulco.

1. Æschynomene *hirsuta, DC.—Schlecht. in Linnæa, v.* 5. *p.* 583. *Hook. et Arn. supra, p.* 287.

HAB. Acapulco.

1. Cajanus *flavus? DC.*— Cytisus Cajan, *L.*

HAB. Realejo.—In the dried state, at least, we cannot distinguish the difference between *C. flavus* and *C. bicolor.*

1. Rhynchosia *grandiflora, Schlecht. in Linnæa,* 5. *p.* 588. *Hook. et Arn. supra, p.* 287. TAB. LIX.

HAB. San Blas to Tepic.

1. Lupinus *Mexicanus, Lag.—Bot. Reg. t.* 457.

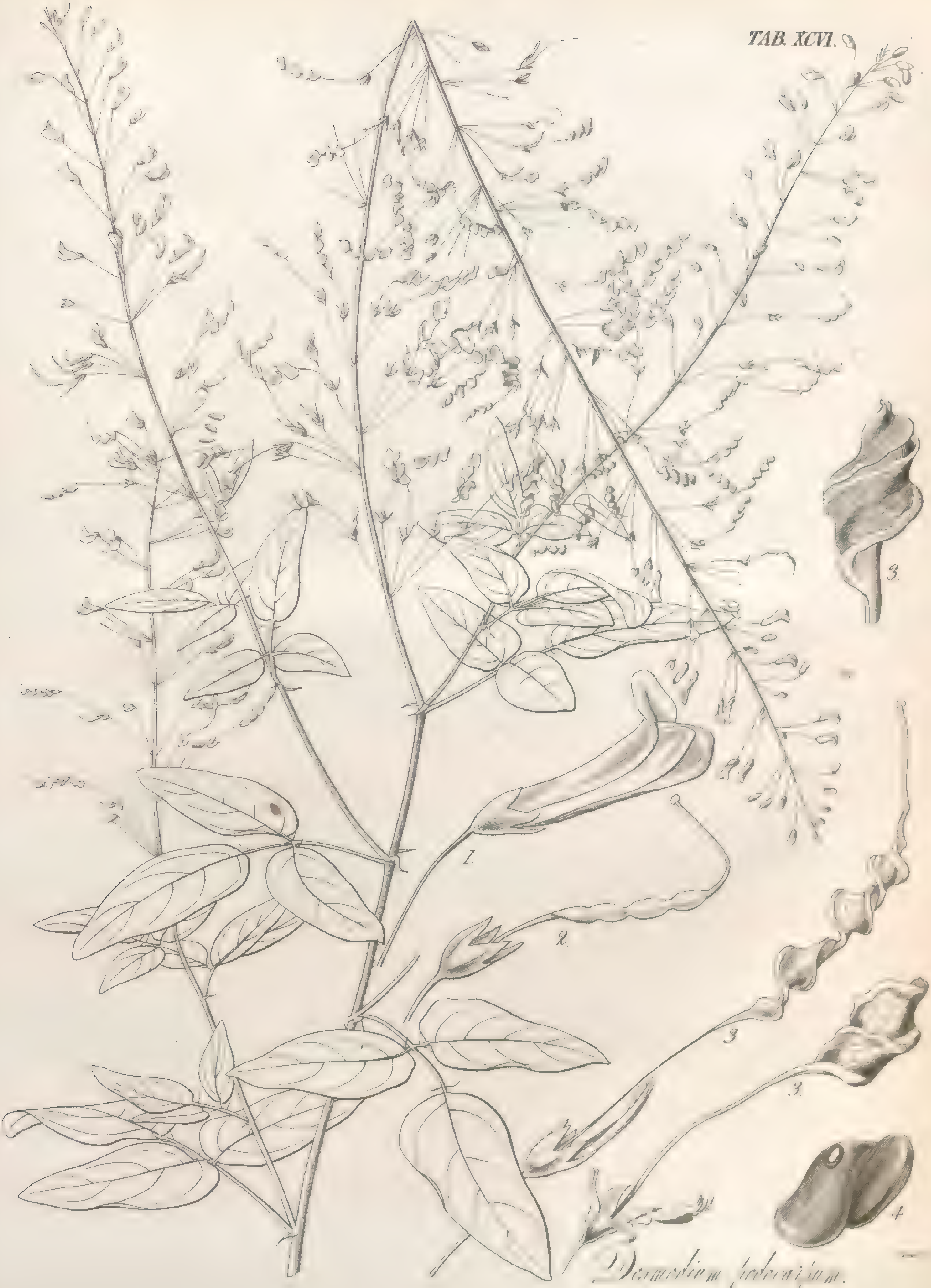
HAB. San Blas.—Bracteas setaceous, much longer than the flowers, by which it is readily distinguished from *L. polyphyllus.*

1. Phaseolus *saccharatus.—M'Fad. Fl. Jam. v.* 1. *p.* 282.

HAB. Acapulco.—Probably a cultivated plant. We cannot find that it accords with any of the species described by De Candolle; but precisely agrees with the specimens we have received from Dr M'Fadyen as the Sugar-Bean of the West Indies, and described by him in the work just quoted under the name of *P. saccharatus.* The stem is twining, more or less hairy, the hairs deflexed. Leaflets nearly glabrous or hairy on the nerves, especially beneath, the intermediate one deltoideo-ovate, acuminate, on a rather long petiolule; the lateral ones half-deltoid. Peduncles a good deal longer than the leaves, bearing several flowers, 2 or 3 together, pedicelled or sessile. Flowers small, greenish-white: the carina spirally twisted. Pod about 2 inches long, acinaciform, tipped with the rather long, straight, rigid, persistent style. There are 2 small, ovate, striated bracteolæ at the base of the calyx. An imperfect specimen of the same plant was in Captain Beechey's collection from Talisco.

1. Mimosa *floribunda, Willd.—De Cand.—Schlecht. in Linnæa,* 5. *p.* 692.

TAB. XCVI.



Desmodium podocarpum.

Hab. Tepic.—The same plant exists in Andrieux's collection of the Mexican Plants, from San Felipe. (n. 402.)

2. M. *sensitiva, Linn.—De Cand. Prod.* 2. *p.* 416.

Hab. Acapulco.

1. Inga *anomala, Kunth, Mim. p.* 70. *t.* 22. *De Cand. Prod.* 2. *p.* 442.—Acacia grandiflora, *Willd.*

Hab. Tepic.—We have the same species from the neighbourhood of Mexico, gathered by our late consul there, Mr Mackenzie. It is a splendid plant, and De Candolle suggests that, together with *Inga Houstoni* which has the same copious long bright red stamens, it might form a distinct Genus.

2. I.? *patens;* caule petiolisque aculeis brevibus uncinatis sparsis, foliis bipinnatis, pinnis sex trijugis, foliolis ovatis ovalibusve oppositis brevissime petiolatis glabris terminalibus plerumque majoribus, spicis elongatis densifloris pedunculatis axillaribus terminalibusque subpaniculatis, staminibus sub 20 corollam 4-petalam vix duplo superantibus.

Hab. Realejo.—This seems to be a tall growing plant, with woody branches, glabrous everywhere except the young shoots. Leaves copious, pa tent, and, as well as the branches (especially the younger ones), furnished with numerous, scattered, small, curved prickles. The main rachis bears 3 pairs of distantly placed pinnæ, each pinna bare of leaflets below, having on its upper half, 3 pair of rather closely set leaflets, the largest of them less than an inch long; these vary somewhat in shape, being ovate, oval, or obovate, upon very short petiolules, of a texture between membranaceous and coriaceous, paler-coloured beneath. In the axils of the upper leaves and upon the extremity of the branches where the leaves gradually disappear (thus forming a sort of panicle) the spikes are situated, 3-4 inches long, shortly pedunculated, and growing singly or 2 or 3 together. The flowers and stamens seem to be yellow.

3. I.? *Guatemalensis;* piloso-sericea, caule petiolisque aculeis validis rectis fulvis, foliis bipinnatis, pinnis 6-8 tri-sexjugis, foliolis oblongo-ellipticis subsessilibus mucronatis, rachi spinula terminata, spicis densifloris terminalibus subpaniculatis, staminibus sub-20 floribus 4-plo longioribus.

Hab. Realejo.—Apparently a low shrub, with woody branches which are angular, especially the younger ones, and these clothed with short silky, rather tawny hairs and beset as well as the petioles and rachis which bears the spikes, with stout, straight, fulvous, scattered prickles, the largest of them almost a quarter of an inch long. Leaves numerous. Pinnæ and pinnulæ rather distantly set, the latter one-half to three-fourths of an inch long, more or less silky especially beneath, as are the younger ones. Spikes 2-4 inches long, with longer stamens than the preceding species. Calyx and corolla (of 5 small erect petals) silky. We have seen no fruit of this or the foregoing species.

1. Poinciana *pulcherrima, L.—DC.*

Hab. Realejo.

2. P. *insignis, Kunth, Mim. t.* 44.—*De Cand. Prod.* 2. *p.* 484.

Hab. Acapulco.—These specimens entirely agree with the figure above quoted of Professor Kunth. The general aspect of the plant is different from that of the preceding species; the colour of the flowers is deeper and redder, the claws of the petals are shorter and the stamens also.

1. Hæmatoxylon *Campecheanum? L.—De Cand. Prod.* 2. *p.* 485.

HAB. Realejo.—A barren specimen of this, "*the Nicaragua wood,*" is in the Herbarium. It has quite the structure of foliage of *Hæmatoxylon*, and in the Dictionnaire des Sciences Naturelles, the "Bois de Nicaragua" is referred to the *Hæmatoxylon Campechianum.* But our specimen has many points of difference from the true *H. Campecheanum.* The branches are much stouter, the ultimate ones indeed cylindrical; but, lower down, where the thickness is equal to that of the little finger, the branches become compressed and as it were deformed and more or less bluntly angular. The outer bark is much darker coloured, covered with little raised points, so as to render the surface everywhere quite rough not only to the touch but to the eye. The leaves are larger, always even in the young branches growing in clusters. With these differences before us, we dare not venture to consider the tree as identical with the "Logwood," nor do we know whether in commerce the two woods be considered the same.

1. Cassia (§ Chamæfistula) *bacillaris, L. fil.—De Cand. Prod.* 2. *p.* 490. *Vogel, Cass. p.* 14. *n.* 15.—Cathartocarpus Bacillus, *Pers.—Bot. Reg. t.* 881.

HAB. Acapulco.

2. C. (§ Chamæfistula) *bicapsularis, L.—Vogel, Cass. p.* 18. *n.* 28. *De Cand. Prod.* 2. *p.* 494.

HAB. Tepic.

3. C. (§ Chamæsenna) *biflora, L.—Vogel, Cass. p.* 29. *n.* 67. *Sims, Bot. Mag. t.* 810. *Bot. Reg. t.* 1310.—*C. Acapulcensis, H. B. K. Nov. Gen. Am.* 6. *p.* 353?

HAB. Realejo and Acapulco.

4. C. (§?) *punctulata;* pubescenti-glandulosa, ramis herbaceis elongatis, foliis remotis foliolis bijugis ovato-lanceolatis breviter petiolulatis mucronatis subtus fusco-punctatis, glandula petiolari nulla, stipulis subulatis reflexis, corymbis paucifloris, calycibus hispidis.

HAB. Tepic.—There is only one specimen of this plant, with imperfect flowers; but its foliage is very peculiar. The petiole is about 2 inches long, bearing at the upper extremity two pairs of ovato-lanceolate acute and mucronated leaflets, each about three quarters of an inch long, marked with brown (resinous?) dots on the underside: these leaves are very remote. The whole plant is clothed with a glandular pubescence. The flowers are moderately large, deep orange colour.

1. Bauhinia *inermis, Pers.—De Cand. Prodr.* 2. *p.* 514.—Pauletia inermis, *Cav. Ic. t.* 419.

HAB. Acapulco.

2. B. *Lunaria, Cav. Ic.* 5. *t.* 407. *De Cand. Prodr.* 2. *p.* 512. *Hook. et Arn. supra, p.* 288.

HAB. Acapulco.

3. B. *latifolia, Cav. Ic. t.* 405. *De Cand. Prodr.* 2. *p.* 513.—β. foliorum lobis obtusioribus.

Hab. β. San Blas and Tepic.

Ord. XV. COMBRETACEÆ. *Br.*

1. Combretum *farinosum;* scandens, foliis oppositis obovato-oblongis obtusis utrinque præsertim subtus farinoso-lepidotis, spicis terminalibus (lateralibusque) geminis, floribus subsecundis octandris aurantiacis, fructibus oblongo-pyriformibus tetrapteris. *H.B.K. Nov. Gen.* 6. *p.* 110. *De Cand. Prodr.* 3. *p.* 19. *Schlecht. in Linnæa,* 5. *p.* 558. *Hook. et Arn. supra, p.* 290.

Hab. Realejo. This seems to have a wide range along the coast of the Pacific, from Acapulco to Realejo.—We think we are right in referring this plant to *C. farinosum,* but there are some points of difference which we observe in our specimens, which are in much finer condition in the present Mexican collection than in the previous one. It is a very splendid species; the stems and branches long and very woody. Petiole three quarters of an inch long. Leaves opposite, broadly elliptical rather than obovate, moderately acute at each extremity, between membranaceous and coriaceous, quite entire, indistinctly squamuloso-farinose above, decidedly so beneath, though not very evident to the naked eye: seen under the magnifier the little scales or farina appear white and round. Racemes as frequently lateral as terminal, 4-6 inches and more long, the rachis firm and woody. Peduncle short. Flowers very numerous, crowded, deflexed and pointing to one side. Pedicel (or rather pedicelliform ovary) the third of an inch long, tetragonal, mealy; free portion of the calyx cup-shaped, tapering at the base, mealy, 4-lobed, lobes acute. Petals 4, alternating with the lobes of the calyx, and situated at the hairy mouth of the calyx, very minute, squamiform. Stamens 8, much protruded, four times as long as the calyx. Filaments deep crimson, arising from the mouth of the calyx. Anthers orange-colour, oval-oblong. Capsules about three quarters of an inch long, roundish-rhomboidal, with 4 broad, membranaceous wings: the surface is almost destitute of the mealiness which clothed the ovary.

Schiede says the *Combretum farinosum* is called "*Peyna,*" signifying a *comb,* by the Spaniards of Actopan, probably because of the closely placed one-sided flowers of the raceme.

Ord. XVI. ONAGRARIEÆ. *Juss.*

1. Jussieua *peploides;* fruticulosa glabra, foliis spathulato-oblongis obtusis crassiusculis, floribus decandris, pedunculo nudo, laciniis calycinis lanceolatis acuminatis, capsulis linearibus. *H.B.K. Nov. Gen. Am.* 6. *p.* 97. *De Cand. Prodr.* 3. *p.* 53. *Hook. et Arn. supra, p.* 291.

Hab. Between San Blas and Tepic.—Although we believe this to be the *J. peploides,* H.B.K., we are yet of opinion that it is also the *J. Swartziana,* DC. and the *J. repens,* Linn.; which latter, though considered by De Candolle to be exclusively a native of the East Indies and adjacent islands, yet we possess specimens from Chile which can in no way be distinguished from it.

2. J. *hirta* (*Vahl.*); frutescens erecta hirsuta, foliis brevissime petiolatis lanceolatis

attenuatis subtus hirtis, pedicellis ovario brevioribus ebracteolatis, calycibus lobis 4 ovatis acutis basi 5-7-nerviis, tubo obconico subcylindraceo-ovato 4-nervio, petalis obovatis calyce longioribus. *De Cand. Prodr.* 3. *p.* 57. *Hook. et Arn. supra, p.* 291.

Hab. San Blas to Tepic.—We possess the same plant from various parts of S. America, but are by no means certain of our correctness in referring it to the *J. hirta* of Vahl. The leaves vary much in different specimens, from ovato-lanceolate to oblong-lanceolate, the hairiness is chiefly confined to the upper part of the plant. The pods are about an inch and a half long, when ripe, destitute of the calyx-segments.

1. Semeiandra *grandiflora, Hook. et Arn. supra, p.* 291. Tab. LIX.—β. *subhirsuta.*

Hab. β. Between San Blas and Tepic.—Dr Sinclair's specimens differ in no respect from those gathered during Captain Beechey's former voyage, except in being more pubescent, especially in the younger parts of the plant, and upon the flowers, and in there being rather longish spreading hairs mixed with the down upon the calyx and pedicels.

1. Diplandra *lopezioides, Hook. et Arn. supra, p.* 292. Tab. LX.

Hab. Between San Blas and Tepic.

1. Lopezia *hirsuta;* caule elato suffrutescente reflexo-piloso, ramis elongatis strictis gracilibus, foliis oppositis ovatis seu ovato-lanceolatis petiolatis obscure serratis hirsutis, racemis terminalibus superne paniculatis. *Jacq. Coll. Bot. p.* 5. *t.* 15. *f.* 4. *De Cand. Prodr.* 3. *p.* 62. *Hook. et Arn. supra, p.* 291.

Hab. Between San Blas and Tepic.—A very graceful plant. The leaves gradually pass upwards among the branches into small bracteas. The hairs with which almost every part of the plant is clothed, except the pedicels and flowers, are rather long and seated upon a small bulb; those of the stem and petioles and midrib beneath are more harsh and rigid than the rest, reflexed and very close pressed. Pedicels extremely slender, subtended by a minute bractea.—The figure of Jacquin above quoted is an excellent representation of a flowering branch.

Ord. XVII. LYTHRARIEÆ. *Juss.*

1. Heimea *salicifolia, Link, et Otto, Abbil. Ber.* 63. *t.* 28. *De Cand. Prodr.* 3. *p.* 89. *Hook. et Arn. supra, p.* 288.—Nesæa salicifolia, *H.B.K. Nov. Gen. Am.* 6. *p.* 192.

Hab. San Blas and Tepic.

1. Cuphea *Llavea, La Llave et Lexarc. Veg. Mex.* 1. *p.* 20. *De Cand. Prodr.* 3. *p.* 85. *Bent. Pl. Hartweg. p.* 7. *n.* 25. (*et Herb. Hartw. n.* 25).—C. barbigera, *Hook. et Arn. supra, p.* 289.—β. foliis plurimis superioribus minoribus densis bracteiformibus.

Hab. San Blas and Tepic.—We had considered this to be a new species: but Mr Bentham has referred specimens of the same plant in Hartweg's Mexican collections (n. 25) to the *C. Llavea*, of La Llave and De Candolle, which latter author has thus characterized it: "caulibus pluribus hispidulis, ramis ascendentibus, foliis subsessilibus ovato-lanceolatis strigosis, pedicellis interfoliaceis erectis, petalis 2 obovatis magnis, cæteris abortivis, stam. 11."—Our character will be seen (supra, p. 289.)—Our specimens in the present collection are a foot and a half to two feet long, extremely rough with the copious rigid hairs or bristles, with which every

part of the plant is clothed. The specimens gathered by Dr Sinclair are rather more glaucous than our former ones, and the large calyx does not in general exhibit so deep a tinge of purple, though that circumstance is very variable.—Our var. β. has some of the leaves of the stem three inches long, but the upper ones are much reduced in size, and so imbricated as to give the appearance of a dense bracteated spike to the flowers.

2. C. *floribunda, Hook. et Arn. supra, p.* 289.

Hab. San Blas to Tepic.—Copious specimens of this fine species are in the present collection, exhibiting all the peculiarities we have mentioned in our specific character. It is a tall growing species. Leaves 2-3 inches long, exceedingly rough to the touch. The flowering branches often run out to a great length, (10 inches or a foot) and bear small, distant, but opposite, narrow-lanceolate, bracteiform leaves.

3. C. *bracteata, Hook. et Arn. supra, p.* 289.—an C. bracteata? *Lag. et De Cand.* 2. *p.* 88.

Hab. San Blas and Tepic.—The *C. bracteata* of Lagasca is a Mexican species, of which the brief description given by De Candolle tolerably accords with our plant. The stems and branches are woody and the bark readily peels off in large flakes. The leaves are little more than half an inch long.

Ord. XVIII. MELASTOMACEÆ. *Juss.*

1. Heterocentron *Mexicanum, Hook. et Arn. supra, p.* 290.

Hab. San Blas to Tepic.—Better specimens than we formerly possessed of this plant, enable us to give, in the following words, its more obvious characters:—fruticosa, ramis tetragonis glabriusculis, foliis ovatis oblique penninerviis brevi-petiolatis integerrimis pubescenti-setosis, floribus in ramis pluribus brevibus corymbosis paniculam formantibus, calyce 4-fido tubo ovato lævi setis copiosis apice glandulosis tecto lobis lanceolato-acuminatis glabris, staminibus 8, 4 majoribus basi longissime bicornis, 4 basi paululum constrictis appendiculis nullis, capsula glaberrima basi calyci adhærente.—This plant has a woody stem, in our present specimens a foot and more long, with opposite square branches. Leaves, the largest of them, scarcely an inch long, on very short petioles, ovate, acute, or rather obtuse, entire, obliquely and constantly penninerved, the nerves all springing from the midrib and directed upwards, above and at the margin sparingly setose with short hairs, beneath paler coloured and the hairs chiefly confined to the costa and nerves. The upper branches are short, and bear leafy corymbs of few, rather small-sized flowers; the collected flowering branches thus forming a leafy corymbose panicle. Calyx 4-cleft, the tube ovate, slightly contracted at the mouth, even (not ribbed), clothed with spreading setæ, which are terminated with a viscid gland; lobes of the calyx lanceolate, acuminate, spreading, destitute of setæ. Petals 4, obovato-rotund, ciliated. Stamens 8, 4 larger of which the anthers are linear-oblong, furnished at the base with 2 long horns or fleshy setæ; the 4 smaller ones are destitute of those horns, and are only slightly constricted at the base so as there to form a sort of tubercle. Ovary broadly ovate, quite glabrous, the lower half incorporated with the base of the tube of the calyx, the rest free; style filiform or slightly clavate. The whole plant has a blackish hue when dry.

1. Chætogastra? *ferruginea;* tota setis nitidis ferrugineis appressis tecta, ramis obtuse tetragonis, foliis oblongo-lanceolatis petiolatis integerrimis 3-5-nerviis, panicula terminali foliosa subcorymbosa, calyce 5-fido, tubo ovato 5-costato, lobis subulato-lanceolatis deciduis, staminibus 10, 4 majoribus omnibus antheris uniporosis basi tuberculo horizontali subelongato, ovario setoso basi calyci adhærente.

Hab. Realejo.—Stems stout and woody, almost terete, the branches obtusely 4-sided, clothed, as are the leaves, calyx and ovary, with erect, close-pressed, pale, rusty coloured shining setæ, giving a silky appearance to the eye. Leaves 2 inches or 2½ inches long, on rather short petioles, oblong-lanceolate, entire, acute, marked with from 3-5 strong, parallel nerves. Flowers corymbose on small terminal branches, which collectively form a corymbose panicle. Flowers crowded, and rather small. Calyx 5-cleft; the tube ovate, marked with ten slightly elevated lines, and, as well as the lanceolato-subulate erect lobes, clothed with appressed, rigid hairs; the lobes are eventually deciduous. Petals 5, oblongo-obovate, ciliated. Stamens 10, 4 large and 4 small; but the anthers all uniform, linear, opening by a single conspicuous pore at the extremity, and furnished at the base with a projecting horizontal tubercle. Ovary ovate, the lower half adherent with the base of the calyx, the upper half free, and covered with erect, close-pressed bristles; style clavate, glabrous. The fruit is a capsule included within the truncated calyx.

Ord. XIX. CUCURBITACEÆ. *Juss.*

1. Bryonia *attenuata;* monoica, caule profunde striato[*] glabro, foliis late ovatis oblongisve integris vel profunde trilobis basi cuneatis utrinque scabris subtus pubescentibus sinubus obtusis lobis cuneato-oblongis obtuse serratis serraturis mucronatis, floribus racemosis, pedicellis inferioribus subfasciculatis.—Anguria? dubia, *Hook. et Arn. supra, p.* 292.

Hab. Acapulco.—From the former Mexican collection we attempted to draw up a character of this plant with the aid of only very imperfect specimens. Those from Dr Sinclair have both flower and fruit. The male flowers are green and about as large as those of our *Bryonia diocia.* Filaments 3. Anthers combined and flexuose. The berries are rather larger than those of the common Bryony, filled with white mealy pulp, and flat seeds.

1. Momordica? *quinquefida, Hook. et Arn. supra, p.* 292.

Hab. Acapulco.—The fruit here is more perfect than in our former specimens, and is ovoid.

RYTIDOSTYLIS.[†] *Nov. Gen.*

Gen. Char. Monoicus. *Calyx* longe tubulosus, coloratus (albus), constrictus, limbo 5-dentato, dentibus minutis demum recurvis. *Petala* 5, lanceolata, summo tubi calycis inserta et quasi cum eo coadunita.—Masc. *Petala* basi nuda. *Columna staminea* longitudine fere calycis tubi, rugosa, superne lævis. *Antheræ* (3?) lineari-elongatæ, tortuosæ, in massam brevi-cylindraceam coalitæ. *Ovarium* nullum.—Fœm. *Petala* basi tuberculis incrassata. *Ovarium* calycis basi adhærens, oblique ovale, hispido-echinatum; *Stylus* elongato-cylindraceus, longitudine calycis tubi, capitatus, rugosus, superne lævis. *Stigma* capitatum, læve. *Fructus*—?—Herba *Guatemalensis.* Caulis *gracilis, cirrhosus.* Folia *alterna, tenui-membranacea, cordata, angulato-dentata, brevi-petiolata, utrinque sub lente scabra.* Flores *masculi corymbosi;* corymbi *pauciflori sublonge pedunculati.* Flores *fœminei solitarii, brevi-pedunculati, ad basin pedunculi masculini inserti.*

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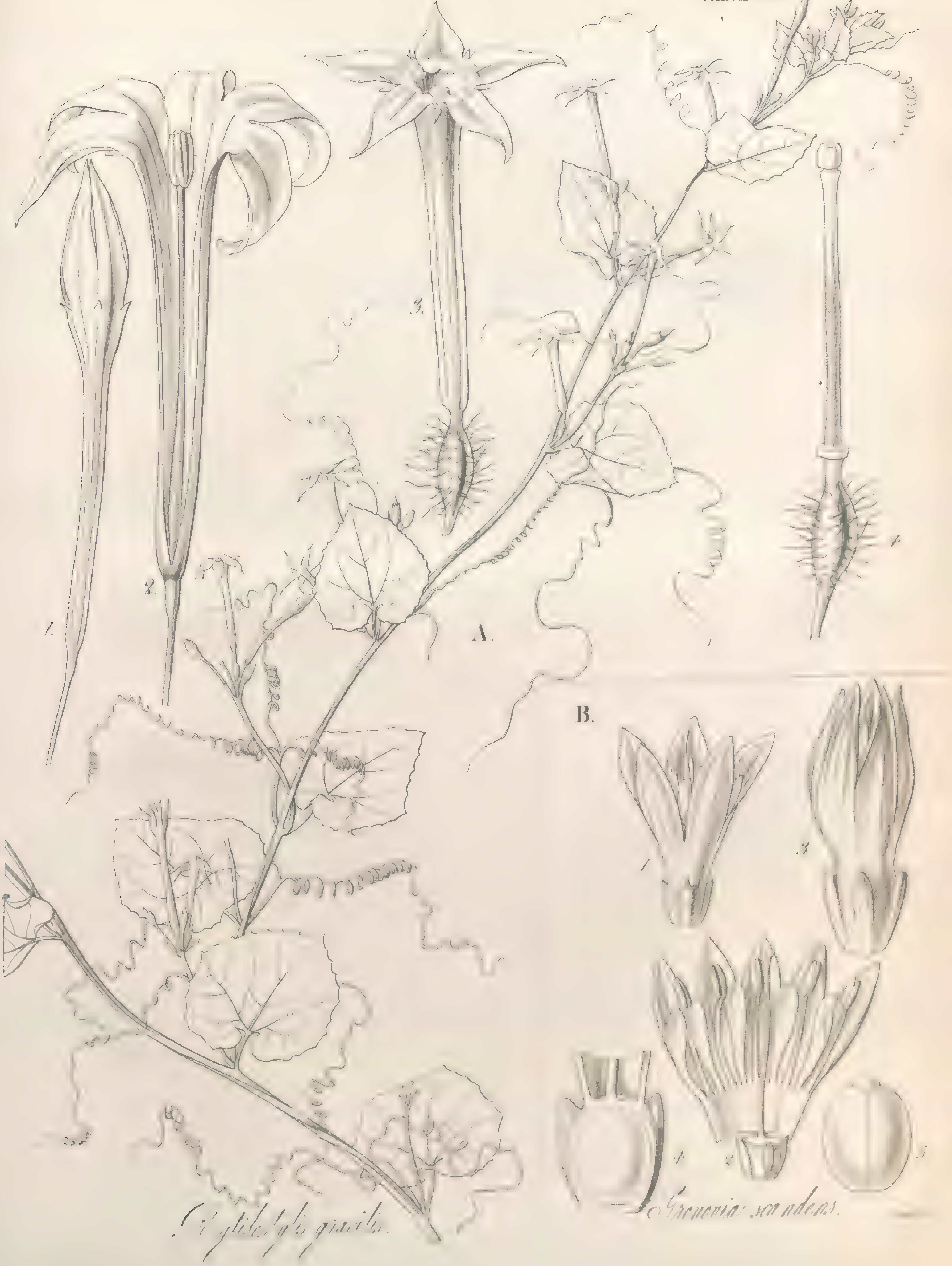
[*] This word is by mistake printed *stricto* in the specific character of the same plant, supra, p. 292.

[†] From ρυτις, ιδος, *wrinkle,* and οςστυλ, a *style* or *column,* in allusion to the wrinkled surface both of the style in the female flower, and of the column of stamens in the male flower.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Rhytidostylis gracilis.

Gronovia scandens.

Gaiica peltata.

1. Rytidostylis *gracilis.* (Tab. XCVII. A.)

Hab. Realejo.—We do not find any genus of *Cucurbitaceæ* to correspond with the present plant, of which, however, we unfortunately possess no fruit. The stems are very slender, almost filiform, glabrous. Leaves thin and membranaceous, an inch and a half long and about as broad, roundish-cordate, with a deep sinus, the margins angulato-dentate, mucronulate, both surfaces scabrous with minute elevated points. Petiole short, not in general much longer than the sinus. Cirrhi lateral. Flowers axillary: male several (4-6) in a pedunculated corymb: female solitary, upon a very short peduncle from the base of the peduncle of the male corymb. Male flowers smaller and slenderer than the female, but the structure of the floral coverings is the same in both; in the male flowers, however, the petals have not the thickened tubercular base we find in the females. The column formed by the filaments of the stamens is nearly as long as the tube of the calyx; there is no ovary nor the rudiment of one. The female flower has no trace of stamens; but the style has the same remarkably wrinkled appearance which we find on the staminal column of the male flowers. Stigma large, smooth, with a depression at the top.

Tab. XCVII. A. Rytidostylis gracilis.—*Fig.* 1. Unexpanded male flower; *fig.* 2. Male flower laid open to show the stamens; *fig.* 3. Female flower; *fig.* 4. The same, from which the floral coverings are removed:—*magnified.*

Ord. XX. PAPAYACEÆ. *Agardh.*

1. Carica *Papaya;* foliis palmatis 7-partitis, laciniis oblongis profunde sinuatis acutis, fructibus oblongis sulcatis. *Linn.—Hook. Bot. Mag. t.* 2898-2899.

Hab. Realejo.—The foliage and flowers exactly correspond with the well known Papaw Tree, and with the specimen figured in the Botanical Magazine. The following is a totally different species.

2. C. *peltata;* foliis peltatis orbiculari-cordatis profunde 5-fidis, lobis latissime obovatis acutis dentatis subtus glaucis, floribus (masculis) glomeratis in paniculam dispositis, filamentis monadelphis alternis brevioribus. (Tab. XCVIII.)

Hab. Realejo.—This is a most distinct species of Papaw from any yet described. The leaves are from 6-10 inches long (and about the same in breadth), deeply 5-lobed, peltate; the petiole, a foot or more long, and as thick as a swan's quill, is inserted beneath at a great distance from the margin; the general outline or circumscription is roundish-cordate; the lobes are very broadly obovate coming suddenly to an acute point, toothed at the margins; the sinuses more or less acute or obtuse; the under side is glaucous. The panicles are of male flowers only, nearly a foot long; the branches distant, but very irregularly placed, and having the flowers clustered or conglomerated. Calyx exceedingly minute, 5-toothed. Corolla an inch or an inch and a half long, hypocrateriform; the tube slender; the limb 5-parted, spreading. Stamens 10, inserted at the mouth of the corolla, evidently monadelphous, the base of the filaments being united into a short annulus: these filaments are alternately longer, all of them fringed with spreading hairs, the shorter ones (so short as at first sight to give the appearance of sessile anthers) have the largest anthers:—all of them, however, are of the same shape, oblong, and opening interiorly by two longitudinal fissures near the middle of the two cells; they are fixed to the top of the filament by the middle of the back. The female flowers and fruit are unknown to us.

Tab. XCVIII. Carica peltata.—*Fig.* 1. Flower; *fig.* 2. Portion of the stamens:—*magnified.*

ORD. XXI. LOASEÆ. *Juss.*

1? Gronovia *scandens, L.—Jacq. Ic. Plant. Rar. t.* 338. *H.B.K. Nov. Gen. Am.* 2. *p.* 119. (TAB. XCVII. B.)

HAB. Between San Blas and Tepic.—St Hilaire has endeavoured to show an affinity between this plant and the *Onagrariæ.* But it is surely more nearly allied to *Cucurbitaceæ* and *Loaseæ.* Professor Lindley places it in this latter Order without any mark of doubt, though it differs from it in the definite stamens and solitary pendent seed. There is an excellent figure of the entire plant in Jacquin's "Icones Plantarum Rariores" above quoted.—The flowers and fruit are nowhere accurately figured. The calyx is coloured, large, funnel-shaped, pubescenti-scabrous, divided half-way down into five broadly lanceolate erecto-patent acute segments; at the base (which is incorporated with the ovary) are five, projecting, obtuse, decurrent teeth, alternating with the segments of the calyx; these teeth may perhaps be considered coadunate bracteas. At first sight they may readily be mistaken for the calyx, and the real calyx for a corolla, and it is no doubt the presence of these which gave rise to the remark in De Candolle's Prodromus, quoted from Fl. Mexic. ms.; "Fructus junior costatus." On laying open the proper calyx, five linear-spathulate petals are seen, alternating with the lobes of the calyx, and shorter than those lobes, situated at the mouth of the tube. Stamens 5, alternating with the petals, and inserted on the same line with them. Filaments as long as the petals, hairy. Anthers oblong, 2-celled, opening anteriorly by two fissures. Ovary adherent to the base of the calyx, 1-celled, 1-ovuled. Style filiform, rather longer than the stamens, glabrous: Stigma capitate, small. Fruit a small indehiscent(?) capsule, crowned by the withered remains of the flower, 1-celled, with one pendent seed occupying the entire cavity of the cell, globose. Albumen none. Embryo globose, of two hemispherical cotyledons. Radicle superior, tuberculiform.

TAB. XCVII. B. GRONOVIA SCANDENS.—*Fig.* 1. Flower; *fig.* 2. The same laid open to show the petals, stamens, and style; *fig.* 3. Fruit, with the withered, but persistent floral coverings; *fig.* 4. Fruit laid open, showing the solitary pendulous seed; *fig.* 5. Embryo:—*magnified.*

ORD. XXII. TURNERACEÆ. *H. B. K.*

1. Turnera *cuneiformis, Juss.—De Cand. Prod.* 2. *p.* 346.—T. obtusifolia, *Sm. in Rees' Cycl.*

HAB. Realejo.—*T. cuneiformis* is described only as an inhabitant of Brazil. Our specimens precisely accord with an unnamed Brazilian species in our Herbarium, gathered at Bahia by Saltzmann; and also with cultivated specimens from the garden of Göttingen under the name of *T. cuneiformis.*

ORD. XXIII. LORANTHEÆ. *Rich.*

1. Loranthus *Schiedeanus;* glaber hexandrus grandiflorus, antheris versatilibus, corymbo terminali e cymis semel terque trichotomis, ramis subalato-tetragonis ad nodos dilatatis, foliis (pseudo-oppositos) breviter petiolatis ovato-lanceolatis lanceolatisve oblique falcatis apice (magis minusve) attenuatis penninerviis subtriplinerviisque, floribus pedicellatis, bractea cupuliformi truncata germine breviore, calycis margine integerrimo

truncato germen æquante. *Schlecht. in Linnæa,* 5. *p.* 172. *Hook. Ic. Plant. t.* 374. *β.* foliis minus acuminatis, floribus brevioribus.

Hab. *β.* Between San Blas and Tepic.—We possess specimens of what we consider the type of this species from Xalapa (the original station of Schiede) gathered by M. Galeotti. The present has less acuminated frequently 5-(as well as 3-) nerved leaves, and shorter flowers. In other respects the two plants appear to be the same. The same species is in Andrieux Pl. Mexic. Exsicc. n. 342, from between Chalco and Gonmacatapec.

Ord. XXIV. RUBIACEÆ. *Juss.*

1. Bouvardia *linearis, H.B.K. Nov. Gen. Am.* 3. *p.* 383. *Hartweg, Plant. Mex. n.* 106. *Benth. Pl. Hartweg. n.* 106.

Hab. Between San Blas and Tepic.—This is probably a very general plant throughout Mexico, and we suspect a very sportive one. Kunth remarks that his *B. angustifolia* and *B. hirtella* are probably not different from it; and we are almost of opinion that through the medium of *B. splendens,* Graham in Bot. Mag. t. 3781, it may be traced even into *B. Jacquinii,* H.B.K. (the *Ixora Americana,* Jacq., *Houstonia coccinea,* Andr.)

2. B. *scabra;* fruticosa, ramis teretibus pubescenti-pilosis, foliis ternis brevissime petiolatis lato-ovatis acuminatis pubescenti-scabris penninerviis, stipulis e lata basi subulato-setaceis, corymbis terminalibus trichotomis, dentibus calycinis longe subulatis scabris, corolla glaberrima.—B. obovata, *Benth. Plant. Hartw. n.* 99. an H. B. K.? *Hartw. Plant. Mex. n.* 99.

Hab. Between San Blas and Tepic.—This is the same plant with n. 99. of Mr Hartweg's Mexican collections, and has been considered by Mr Bentham to be the *B. obovata* of H.B.K.—but that plant is described as having a glabrous, 4-sided, square stem, and "folia quaterna obovato-oblonga, acuminato-mucronata, basi angustata, reticulato-venosa, utrinque glabriuscula;" characters which do not tally with our plant. Our *B. scabra,* is remarkable for the harsh rigid pubescence which more or less abundantly clothes every part of the plant, and which is particularly copious on the young branches and foliage and on the calyces. Leaves 2-3 inches long. The stipules are formed by a broad membrane, uniting the bases of the petioles and bearing a strong subulate or rather setaceous tooth, and one or two lesser and filamentous ones, which are soon deciduous. Corymb many-flowered, terminal, trichotomously divided, at the setting on of the branches bearing 3 small linear-lanceolate leaves and similar stipules to those of the stem, but having less rigid teeth or setæ. The calycine teeth are particularly long, subulate and flexuous; the corolla an inch and a half long, scarlet (?), the tube slender, widening upwards, the limb of 4 broadly ovate spreading segments.*

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* In Mr Andrieux's Mexican collections are three plants which seem to be referrible to this genus *Bouvardia,* and which may be thus characterized.

1. Bouvardia *Tolucana;* suffruticosa, ramis erectis trichotomis foliisque ternis lineari-lanceolatis sessilibus pubescenti-scabris, stipulis latis membranaceis subbisetigeris, corymbis terminalibus trichotomis, dentibus calycinis brevibus subulatis, corollæ pubescentis limbi laciniis late ovatis brevibus suberectis.

Hab. Toluca. *Andrieux, Pl. Mexic. exsicc. n.* 332. Nom. vernac. *Trompetillo.*—The lower part of the stem is shrubby, the rest herbaceous. The leaves are scarcely an inch long, quite sessile. Flowers an inch in length. Corolla clothed with a rather harsh white down, the limb very short.

1. Hamelia *patens, Jacq.—Hook. et Arn. supra, p.* 295, (*var. glabra.*)—β foliis subtus molliter pubescentibus.

Hab. β. Realejo.—Our former specimens were quite glabrous, the present are downy and even velvety on the underside of the leaves.

1. Spermacoce *tenuior, Linn.—De Cand. Prod.* 4. *p.* 552. *Hook. et Arn. supra, p.* 295. (Tab. Nostr. XCIX. B.)

Hab. San Blas and Tepic.—In this widely dispersed species of *Spermacoce* we think we have observed characters which will almost invalidate those of the Genus *Bigelovia* (*Borreria*, Meyer, not Acharius.)—The essential distinguishing mark of the Genus *Bigelovia*, is to have the "Capsula matura ab apice septicide dehiscens dissepimento libero nullo." (De Cand.) Such is really the case, generally speaking, with the fruit of the plant now before us, as shown by *A. Richard, Rub. t.* 14. *fig.* 2, 3. and in our Tab. XCIX. B. fig. 3 and 4. Hence, as it appears to us, our plant would be a *Bigelovia*. Schlechtendal's character of *Bigelovia* in the *Linnæa* (3. p. 310.) is also quite characteristic of this kind of fruit:—"Capsula calyce coronata, bilocularis, bivalvis, septicide dehiscens, dissepimento, præter inflexos valvularum margines, nullo; loculis monospermis intus demum hiantibus."—But in other fruits on the same specimen we find a different mode of dehiscence. Not unfrequently one* or both valves separate from the flat inner superficies of the valves or

2. Bouvardia *xylosteoides;* fruticosa, humilis? foliis ternis late ovatis obtusis breviter petiolatis molliter pubescentibus subtus pubescenti-sericeis, stipulis late ovatis membranaceis pubescentibus bi-trisetigeris, floribus subcapitatis, capitulis 3-6-floris sessilibus, calycis tubo tomentoso, limbi laciniis elongatis spathulatis foliaceis, corolla tomentoso-sericea, limbi laciniis brevibus ovatis.

Hab. On slightly elevated mountains about Mitlam, Province of Oaxaca. *Andrieux, Pl. Mexic. exsicc. n.* 333.—A small, apparently humble shrub, with a good deal the general aspect of some of the North American species of *Xylosteum*. Leaves, including the petioles, three-fourths of an inch long, soft and downy, silky beneath. The teeth of the calyx are long, spathulate and leafy. The corolla clothed with dense, white, silky tomentum; the limb of 4 short broadly ovate, spreading segments. The heads of few flowers seem to be quite sessile.

3. Bouvardia? *discolor;* fruticosa, foliis oppositis ovatis acuminatis breviter petiolatis supra hirsutis subtus albido-tomentosis in junioribus candidissimis, stipulis ovato-lanceolatis liberis (?) deciduis, corymbis densifloris capitatis pedunculatis terminalibus bracteatis, calycis lobis lanceolatis elongatis, corolla albido-tomentosa.

Hab. Between Tehuantepec and Voca del Monte, Province of Oaxaca. *Andrieux, Pl. Mexic. exsicc. n.* 334.—A doubtful species of *Bouvardia*. The stems are woody, tortuous; the older parts of the branches marked with the scars of fallen leaves and stipules; younger branches very downy, almost woolly. Leaves opposite 2-3 inches long, penninerved, moderately hairy above, woolly and much paler coloured beneath, where in the young leaves it is pure white. Flowers densely crowded, so that the corymbs appear rather to be capitula; the segments of the calyx elongated, almost leafy. The corollas about an inch long, canescent with white woolly down.

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* And then the character is that of *Spermacoce*, if we understand it rightly, "Capsula calycis limbo sæpe obliterato coronata, bilocularis, coccis monospermis ab apice bipartibilibus, altero septo adnato clauso, altero septo rupto aperto." *De Cand.*—Or, according to Schlechtendal, "Capsula calyce coronata, bilocularis, bivalvis, dissepimento parallelo; loculi monospermi, alter septifrage dehiscens, alter dissepimento adnato clausus."—*Schlecht. in Linnæa,* 3. p. 355.

carpels, shown at figs. 3 and 4, and then the dissepiment is clearly seen to be double (fig. 7.) and of quite a distinct substance (not herbaceous, but between membranous and coriaceous) from the valve: and these, singly or two together, may often be seen among the clusters of fruit, resembling white, oval chaffy scales. In other words, the dissepiments sometimes fall away with the respective cells or carpels and sometimes remain attached to the receptacle after these latter have separated. This receptacle is a small spongy conical body (fig. 4.) whose apex reaches to the point of attachment of the seed. The valves are almost hemispherical; one frequently bears three teeth of the calyx, and the other two. The cavity is entirely filled by the seed, which is nearly hemispherical, transversely wrinkled, anteriorly marked with a deep longitudinal furrow, and, near the base of that furrow, with a scar where the seed was attached to the dissepiment. Among the capsules are numerous setæ.

The habit of *Bigelovia,* it must be confessed, is completely that of *Spermacoce,* as is that of *Diodia* likewise; and we cannot but agree with Achille Richard in his observations on the Genus *Spermacoce, Mém. sur la Famille des Rubiacées, p.* 150. "Un examen attentif d'un très grand nombre d' espèces nous a convaincu de la necessité de réunir en un seul les trois genres, *Spermacoce, Diodia* et *Borreria* (*Bigelovia*)*;* c'est toujours un même type d'organisation, non seulement dans toutes les parties de la fleur, mais encore pour le fruit d'après lequel on a fondé la distinction de ces trois genres. En effet que les deux coques restent parfaitement closes comme dans les *Diodia,* ou bien qu'elles offrent une fente longitudinale comme dans les *Borreria,* ou enfin que la cloison reste complètement adhérente à l'une des coques, tandis qu'elle manque dans l'autre coque comme dans les véritables espèces de *Spermacoce;* nous ne voyons là, nous le répétons, qu'un même type d'organisation, d'autant plus que très-souvent ces caractères ne sont pas si nettement dessinés qu'il soit facile de rapporter une espèce à telle ou telle de ces trois modifications. Nous pensons donc qu'au lieu d'en former des types de genres, elles peuvent simplement être employeés pour établir des subdivisions ou sections dans le genre *Spermacoce,* qui est fort nombreux en espèces."

TAB. XCIX. B.—*Fig.* 1, 2. Capsules; *fig.* 3, 3. Valves or carpels separated from the receptacle (*fig.* 4.); *fig.* 5, 5. Valves separated from the dissepiments, which latter remain attached to the receptacle (*fig.* 6.); *fig.* 7. Back view of a seed; (at *fig.* 5. The inner face of the seed is seen):—*magnified.*

1. Mitracarpum *Schizangium;* diffusum suffruticosum, ramis subtetragonis pubescentibus, foliis oblongo-lanceolatis acuminatis utrinque et margine scabris, stipulis pubescentibus membranaceis setis rigidis, floribus axillaribus verticillatis et terminalibus capitatis 4-phyllis, filamentis inclusis, seminibus cruciatim 4-lobis, lobis emarginatis. (TAB. XCIX. A.) *De Cand. Prodr.* 4. 572. *Hook. et Arn. supra, p.* 295.—Schizangium durum. *Bartl. in Herb. Hænke.* (*DC.*)

HAB. San Blas to Tepic.

Caulis pedalis ad sesquidepalem, tereti-obscure tetragonus, glaber vel subpuberulus, basi suffruticosus, diffusus, ramosus, ramis brevibus. *Folia* opposita, (internodiis elongatis, præsertim in caule ubi 4-6 uncias longis) lanceolata, rigidiuscula, 2-3 uncias longa, 3-4-lineas lata, utrinque acuminata, vix petiolata, subtrinervia, vel potius nervis paucis costa parallelis scabriuscula, ad marginem et ad nervos subtus scabra, pagina inferiore subpubescentia. *Stipulæ* latæ, membranaceæ, pubescentes, margine denticulatæ et spinulis vel setis rigidis tribus appressis ferentes; seta intermedia longiore validiore. *Flores* parvi numerosi, glomerato-verticillati, in axillis et in stipulis foliorum supremorum siti, vel terminales capitati, capitulo subtetraphyllo, inter flores setoso; setæ numerosæ. *Flores* brevissime pedicellati. *Calycis tubus* globosus, subdidymus, obscure costatus glaber, superne setoso-scaber, limbus 4-dentatus, dentibus subulatis, quorum duabus oppositis duplo longioribus latioribusque, tubum 4-plo superantibus, minoribus albidis, omnibus rigidis erectis, marginibus setoso-scabris, diaphanis. *Corolla* infundibuliformis, dentibus calycinis longior, extus pubescens, tubo gracili, limbo 4-lobo, lobis ovatis

patentibus. *Stamina* 4. *Antheræ* oblongæ, vix exsertæ. *Stylus* longe exsertus. *Stigma* bifidum, laciniis patentibus vel recurvis. *Capsula* membranacea, calycis dentibus erectis rigidis coronata, bilocularis, loculis monospermis, matura paullo infra medium circumscisse dehiscens "scissuræ planum utrinque a dissepimento declive, sic ut pars decidua angulo fere recto appareat excisa." (Schlecht.) *Semen* ovali-subquadratum, fere hemisphæricum, brunneum, cruciatim quadrilobum, lobis linea transversali emarginatis.

This plant, as well as the other individuals of the genus, have so much the habit of *Spermacoce,* that, without a careful examination of the fruit, the distinction is not evident. But there a remarkable difference is observable, which has given rise to the generic name. The capsule is a *pyxidium,* separating into two portions, not indeed exactly transversely, but with an angle somewhat resembling that of a V inverted, and the upper half, shaped like a mitre, falls away, frequently carrying the seeds along with it, which are detached from the dissepiment that remains in the lower half (*fig.* 4, 5.) The seeds are extremely curious, and judging from the figure in the Linnæa, very different from those of *M. Humboldtianum,* one of the species on which the Genus was founded.—Stems and branches dark-coloured.

Tab. XCIX. A. Mitracarpum Schizangium.—*Fig.* 1. Flower; *fig.* 2. Fruit; *fig.* 3, 4. Capsule with the two portions separated; *fig.* 5. Front (or inner) view of a seed; *fig.* 6. Back view of ditto; *fig.* 7. Side view of ditto:—*magnified.*

2. M. *pallidum;* herbaceum erectum, ramis elongatis flexuosis, foliis ovato-lanceolatis acutiusculis basi in petiolum attenuatis utrinque scabro-puberulis, stipulis hirsutis spinoso-setigeris, floribus axillaribus verticillatis et terminalibus capitatis 4-phyllis, filamentis exsertis, seminibus—?

Hab. Realejo.—This, although very nearly allied to the preceding, is certainly a distinct species; it is herbaceous, with an annual root. The stem is erect, and, as well as the elongated branches, of a singularly pale colour, and glossy; they are rounded, with 4 but little elevated lines, thus indistinctly quadrangular, very slightly downy. The leaves are broader, softer, and more decidedly petiolated, equally long in general, but the uppermost ones, those forming a sort of involucre beneath the terminal head of flowers, are shorter. The stems are one foot and a half to two feet long. The specimens have no fruit.

1. Crusea *parviflora;* elata herbacea, ramis elongatis gracilibus divaricatis, foliis ovato-lanceolatis tenuibus in petiolum attenuatis hirsutulis, umbellis capitatis terminalibus tetraphyllis, pedicellis calycis lobis basi sericeo-villosissimis, ovario didymo lobis disjunctis, calycis tubo supra ovarium maxime constricto. (Tab. XCIX. C.)

Hab. Acapulco.

Caulis herbaceus, erectus, tetragonus, gracilis, glaber, nitidus, bi-tripedalis et ultra, ramosus. *Rami* oppositi non raro subverticillati, divaricato-patentes, filiformes, internodiis elongatis. *Folia* opposita, brevi-petiolata, 1-2 uncias longa, ovato-lanceolata, tenui-membranacea, acuta vel acuminata, basi cuneato-attenuata, glabra vel villosula, subtus pallidiora, penninervia, nervis oblique subparallelis. *Stipulæ* latæ, membranaceæ, glabriusculæ, setis inæqualibus appressis rigidis marginatæ. *Flores* parvi, umbellato-capitati, capitulis hemisphæricis semiunciam latis, involucratis, involucro tetraphyllo, foliolis sessilibus ovato-lanceolatis, 3-5-nerviis, duobus oppositis triplo minoribus, majoribus unciam longis: intra flores setis vel paleis plurimis angustis villosis. *Pedicelli* pilis longis sericeis hirsutissimi. *Calycis tubus* glaber, ob formam ovarii inferne didymus, superne insigniter constrictus, dein in limbum 4-lobum profunde 4-partitum dilatatus. *Limbus* basi membranaceus, hirsutissimus, albus; laciniis elongatis, lineari-spathulatis, herbaceis, acutis, ciliatis,

TAB. XCIX.
A.
Mitracarpum Lhotzkyanum.
B
Spermacoce tenuior.
C.
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2
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erecto-patulis. *Corolla* infundibuliformis, lacinias calycinas superans, extus pubescens; *tubus* inferne gracillimus superne dilatatus: *limbus* 4-lobus, lobis ovatis erecto-patentibus. *Stamina* 4: *filamenta* lobis corollæ alterna, longe exserta: *antheræ* subglobosæ. *Stylus* gracilis, corolla fere duplo longior: *Stigma* parvum, bilobum. *Fructus* dicoccus, calycis limbo basi contracto (et pedicellum æmulante) coronatus: coccis globosis monospermis, punctatis, indehiscentibus, demum ab axi persistente plano fenestrato calycem persistentem retinente solutis. *Semen* subglobosum, nigrum, rugosum, intus sulco profundo longitudinali notatum.

This is a tall growing plant, with slender glossy stems, spreading filiform branches, and thin membranaceous leaves. Flowers so small, and in so perfect an involucre as to look, at first sight, like those of some *Compositæ:* this involucre, at the base, by the union of the base of the leaves through the medium of the stipules, is cup-shaped. The flowers themselves are extremely curious, white or yellowish. Each one is pedicellate: the pedicels very hairy, or rather silky, and mixed with very narrow silky paleæ or membranous setæ. The ovary, though of course adherent with the tube of the calyx, has its two rounded lobes so separated by the axis, or continuation of the pedicel, that these lobes have the appearance of two globose glands, placed one on each side of the pedicel below its apex; for above the ovary the calyx-tube becomes suddenly contracted, so as to resemble a pedicel to the free portion or limb of the calyx; this latter is large (in proportion to the size of the flower), deeply cut into five, erecto-patent, spathulate, but acute, herbaceous segments, slightly fringed at the margin, whilst the white and membranous base is clothed with long, spreading, silky hairs, like the pedicel. Coccules but little altered from the lobes of the ovary, rather larger, and darker coloured, punctate; they are indehiscent, fall off and leave the axis or flattened upper portion of the pedicel, which is fenestrated (*fig.* 3.), or perforated with an oblong fissure, within which, at the base, is the placenta or receptacle of the seeds. The pericarp is rather thin, but succulent, and adheres pretty closely to the seed which is black and wrinkled, its inner face marked with a deep oblong furrow.

Tab. XCIX. C. Crusea parviflora.—*Fig.* 1. Flower; *fig.* 2. Fruit, crowned with the persistent calyx; *fig.* 3. Calyx, after the coccules have fallen away, to show the perforated axis and the placenta or receptacle of the seeds; *fig.* 4. Back view, and *fig.* 5. front view of a coccule; *fig.* 6. Seed:—*magnified.*

2. Crusea *subalata;* robusta, caulibus elongatis diffusis ramisque acute tetragonis angulis inferne alatis, foliis ovatis ovato-lanceolatisve petiolatis rigidiusculis pubescenti-tomentosis, ovario bilobo, corollæ laciniis concavis, stigmate clavato integro.

Hab. Between San Blas and Tepic.—Stems two feet and more long, spreading, acutely 4-angled, the angles winged below. Branches elongated, downy, stipules a broad short downy membrane with 2-4 rigid setæ. Leaves an inch or an inch and a half long, of a harsh and firm texture compared with the preceding species, penninerved, the nerves few and nearly parallel with the midrib. Flowers pedicellate, but so dense as to form a very compact globose capitulum within the four-leaved involucre. Pedicels short, hairy. Ovary glabrous, globose, but scarcely 2-lobed. The contraction of the tube of the calyx above the ovary is very slight. Calyx-limb much resembling that of the last species, but silky on the whole outer surface. Corolla with much longer and very concave, almost boat-shaped segments, velvety on the outside. Filaments very long and much inserted. Style shorter than the stamens. Stigma clavate or capitate, quite entire.—We find no description of this, or of the foregoing species, both of which undoubtedly belong to the Genus *Crusea.*

Ord. XXV. VALERIANEÆ. *Juss.*

1. Astrephia *Mexicana;* glabra, foliis bi-tripinnatifidis laciniis lineari-subacuminatis, paniculæ terminalis ramulis gracilibus dichotome corymbosis, ramis ultimis spicatis

floriferis, bracteis distichis, floribus fructibusque secundis, corolla basi subgibba, calycis limbo obseleto integro.—Valeriana ceratophylla, *Hook. et Arn. supra, p.* 296. not *H.B.K.*

Hab. San Blas and Tepic.—Notwithstanding the great similarity between this plant and the *Valeriana ceratophylla* of H.B.K. Nov. Gen. Am. 3. t. 276. (so great indeed, that we had in a former part of this work hastily considered it the same), it is in reality a totally different thing, not even referrible to the Genus *Valeriana* at all. It is a true *Astrephia,* having no pappose calycine limb, but a very indistinct entire border, a mere slightly elevated rim. The flowers at first appear to be capitate at the extremity of the little ramuli of the corymbs: but as the fructification advances, these ramuli are elongated into slender spikes, with closely placed, almost imbricated, distichous, fringed, ovato-lanceolate bracteas, within which the ovary is situated. Corolla very narrow at the base, and there a little oblique, but scarcely gibbous. Stamens 2, almost entirely included. Style much inserted. Stigmas 3. Limb of the calyx obsolete, unaltered in fruit. Fruit glabrous, ovato-triquetrous, with two elevated lines in front, indicating two abortive cells. The more advanced fruit is, however, only 1-celled, very deciduous, leaving the rachis pectinated, as it were, with the closely-placed distichous scales or bracteas.

Ord. XXVI. COMPOSITÆ.

Trib. I. VERNONIACEÆ.

1. Vernonia (§ Lepidaploa) *lanceolaris;* caule tereti striato pube feruginea parce velutino, foliis petiolatis lanceolatis basi subobtusis apice acuminatis serrulatis supra glabris, subtus petiolisque parce velutinis, paniculæ ramis axillaribus ebracteatis ramosis velutinis, capitulis sessilibus ovatis 20-floris lateralibus et terminalibus, involucri squamis omnibus mucronatis dorso subpuberis, corolla glabra, receptaculo alveolato, achenio puberulo, pappi serie exteriore brevi vix paleacea. *De Cand. Prodr.* 5. *p.* 37.

Hab. Realejo.—De Candolle's character of this plant is drawn up from a Mexican specimen in Hænke's Herb., and consequently we believe that it is from the Pacific side of Mexico, and the character quite accords with our Realejo specimens. The stem and branches are decidedly woody and striated, upwards clothed with rusty down. Leaves 4-6 inches long, broadly lanceolate, penninerved and reticulated, of a harsh texture, wrinkled when dry. Petiole half an inch long. Panicle large, many-flowered, terminal, the branches leafy at the base; the ultimate ones slightly recurved, bearing the capitula sessile on the upper side. Scales of the involucre green with a white border.

1. Distreptus *spicatus, Cass.—De Cand. Prodr.* 5. *p.* 87. *Hook. et Arn. supra, p.* 296. —Elephantopus spicatus, *Juss.*

Hab. Realejo.—Our specimens have larger capitula than usual, and from 4 to 6-8 collected in each bractea; but it is a species liable to much variation, according to De Candolle.

1. Lagascea *latifolia;* fruticosa, foliis sessilibus amplexicaulibus oblongis acuminatis serratis integerrimisve supra scabris subtus molliter pilosis reticulatis, capitulis corymboso-paniculatis. *De Cand. Prodr.* 5. *p.* 92. *Hook. et Arn. supra, p.* 296.—Nocca latifolia, *Lallave et Lex. Nov. Veg. Descr.* 1. *p.* 31. *Sweet, Br. Fl. Gard. t.* 215.

Hab. Between San Blas and Tepic.—Our specimens, only portions of the plant, are a foot to a foot and a half long, leaves 4-6 inches long, opposite, and, by means of the short semi-amplexicaul petioles, even

united, so that the stem may almost be said to be perfoliate.—Cultivated in our gardens, this fine plant, according to Mr Sweet, attains a height of 10 or 12 feet.

2. L. *angustifolia;* foliis brevi-petiolatis oblongo-linearibus integerrimis utrinque attenuatis villoso-scabris, capitulis villosissimis subfasciculatis. *De Cand. Prod.* 5. *p.* 92.

Hab. Between San Blas and Tepic.—A very distinct and well marked species with lanceolate leaves, much attenuated at the base, and densely villous small capitula.

SINCLAIRIA. *nov. Gen.*

Capitulum multiflorum radiatum; *fl. radii* ligulatis fœmineis, *disci* hermaphr. 5-fidis, lobis linearibus æqualibus demum revolutis, apicibus hirsutulis. *Receptaculum* nudum. *Involucrum* campanulatum, squamis imbricatis appressis, interioribus brevibus ovatis. *Antheræ* disci ecaudatæ, filamentis lævibus. *Styli rami* elongati fere subulati; *disci* breviores lobos corollæ vix superantes, subhispiduli obtusiusculi. *Achenium* breve glabrum angulatum. *Pappus* fulvus biserialis, serie externa paleacea brevi; *intern.* elongata setiformi scabra rigida fragili.—Frutex *glaber* (*vel* arbor) *Mexicanus.* Rami *fere ad apices lignosi.* Folia *opposita longe petiolata integerrima rhomboidea brevi-acuminata trinervia, supra viridia subtus albissima, nervis atro-fuscis.* Petioli *graciles basi dilatati amplexantes.* Panicula *terminalis thyrsoidea speciosa.* Flores *lutei.*

1. Sinclairia *discolor.*

Hab. Realejo.—We think this fine plant, which is very different from any thing we are acquainted with, may be placed among the *Vernoniaceæ*, near *Hectoria* and *Andromachia.*—The flowers are about an inch in diameter. Leaves 4 or 5 inches long, and almost as much broad; beneath, quite white (but neither tomentose nor farinose), beautifully marked with the dark brown nerves.

1. Piqueria *trinervis.* Cav.—*Hook. et Arn. supra, p.* 296.*

Hab. Between San Blas and Tepic.

1. Cælestina *petiolata* (n. sp. Sect. Ageratoides); foliis glaberrimis late ovatis obtusiusculis grosse obtuse serratis basi in petiolum longum attenuatis, corolla glaberrima, pappo cupulæformi dentato dente unico corollæ tubum fere æquante.

Hab. Realejo—Caulis ascendens, basi lignosus. Folia 3-4 uncias longa: petioli bipollicares. Pedunculus terminalis, elongatus, gracilis. Capitula corymbosa, parva.

1. Phania? *dissecta* (n. sp.); caule gracili elongato repetitim dichotomo pubescente, foliis bi-tripinnatim-sectis, pinnis primariis remotis laciniis parvis ovato-lanceolatis incisis, pedunculis monocephalis elongatis gracilibus terminalibus et ex dichotomiis ramorum,

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* In order to save room, as the present is the last fasciculus to which the work can extend, we are obliged to omit the notice of several interesting and some entirely new plants in this collection, but especially of such as were found in Mexico during the previous voyage of Captain Beechey.

capitulis multifloris, involucri squamis striatis nitidis imbricatis exterioribus lanceolato-interioribus longioribus angustissimo-linearibus, corollæ perangustæ lobis brevissimis obtusis, pappo æquali e setis tenuibus fuscis 12-14 corollæ longitudinem æquante.

Hab. Acapulco.—Whether of the genus *Phania* of De Candolle or not, it is doubtless a congener with our *Phania? urenifolia*, supra, p. 297. The habit is quite the same, and the involucre and corolla: the leaves however and the pappus are extremely different.

1. Stevia *elliptica* (n. sp.); pubescenti-glandulosa superne præcipue, foliis oppositis ellipticis seu ovato-ellipticis serratis trinerviis basi brevi-attenuatis sessilibus, capitulis glomeratis corymboso-paniculatis, pappi setis 3-4 asperis longitudine corollæ.

Hab. Between San Blas and Tepic.—A tall growing shrubby plant with a good deal the appearance of *Stevia trachelioides*, DC. and *Hook. Bot. Mag. t.* 3856:—but the pappus is extremely different, having no paleæ and only from 3 to 4 long scabrous setæ. It has not enough of setæ to range with De Candolle's Div. *Multiaristatæ.*

2. Hebeclinium *Tepicanum* (n. sp.); fructicosum, glabrum, foliis membranaceis ovato-lanceolatis acuminatis petiolatis pellucido-punctatis serratis, panicula terminali thyrsoidea, capitulis parvis subquinquefloris, involucri imbricati squamis ellipticis obtusis striatis, acheniis obovatis angulatis, pappi setis sub-20 corollæ longitudine apicibus clavellatis plumosis.

Hab. Between San Blas and Tepic.—The general aspect of this plant is very similar to that of the well known *H. macrophyllum*, but the branches are woody to the very apices, as in Mr Bentham's *H. macrocephalum*. The leaves are nearly a span long, copiously pellucido-punctate, the involucres and the size of the capitula are as in the former mentioned species.

1. Erigeron *velutipes* (n. sp.); annuum parvum pubescens, caule erecto superne paniculato basi pilis albis patentibus dense vestito, foliis acutis inferioribus spathulatis grosse inciso-serratis superioribus linearibus integerrimis, pedunculis elongatis parce pilosis monocephalis, involucri hemisphærici squamis linearibus scarioso-marginatis, ligulis copiosis disco duplo longioribus.

Hab. Between San Blas and Tepic.—This may be placed near *E. scaposum*, DC. *n.* 27, but the stem is always branched or panicled even in the smallest specimens, and the base of the stem and attenuated bases of the lower leaves are densely clothed with long white hairs.

1. Chrysopsis? *scabra* (n. sp.); annua gracilis erecta superne paniculata, foliis integerrimis acutissimis radicalibus spathulatis caulinisque oppositis lanceolatis summis linearibus subulatisve bracteiformibus, involucri squamis linearibus pubescenti-hirsutis, ligulis sub-12 disco duplo longioribus, pappi simplicis seriei setis 3-5 scabridis longitudine fere tubi basi dilatato-paleaceis.

Hab. Between San Blas and Tepic.—An annual, herbaceous plant, 1 foot to 1½ foot high; the leaves, except those of the panicle, are opposite (!) and the pappus certainly is not double; so that though it has the habit of a *Chrysopsis* it will no doubt be found to belong to some other genus when more perfect specimens can be examined.

1. Wedelia *strigosa* (n. sp.); caule erecto suffruticoso, ramis elongatis striatis pubescenti-hirsutis, foliis brevissime petiolatis ovatis serratis longe angusteque acuminatis trinerviis supra undique subtus ad nervos strigoso-hispidis setis tuberculo albo impositis, pedunculis terminalibus vel e dichotomiis ramorum folio longioribus monocephalis, involucri squamis ovato-ligulatis exterioribus subfoliaceis hirsutis interioribus subscariosis ciliatis, achenio glabro calyculo fimbriato dentibus 2 longioribus.

Hab. Acapulco.—This does not accord with *W. Acapulcencis* of H.B.K., nor with any other described species.

2. W. *cordata* (n. sp.); piloso-scabra herbacea, foliis longe petiolatis cordatis (superioribus ovato-cordatis) acuminatis membranaceis serratis trinerviis, pedunculis terminalibus gracilibus tricephalis diphyllis, involucri squamis lanceolatis acutis pubescenti-hirtis, acheniis . . . . . ?

Hab. Realejo.—Apparently a tall growing herbaceous plant, scabrous to the touch, and, when the leaves are magnified, the hairs are seen to be short but situated on a small white tubercle as in the preceding species, from which in other respects it is totally different. The achenia are too young to allow us to describe their form accurately.

3. W. *populifolia* (n. sp.); herbacea elata erecta pubescenti-scabra, foliis lato-cordatis longe petiolatis serratis tenui-acuminatis trinerviis, paniculis foliosis, capitulis sæpe subverticillatis, pedunculis pedicellisque pilosis, involucri squamis ovatis acutis striatis versus apicem præcipue hirsutis, acheniis . . . . . ?

Hab. Realejo.—Here, also, the flowers are too young to exhibit the exact structure of the achenium and pappus: but the species is very different from the preceding ones. The capitula are numerous and frequently subverticillate.

4. W. *subflexuosa* (n. sp.); herbacea, glabra, vel sub lente minute piloso-hispida, ramis elongatis subflexuosis, foliis ovatis acuminatis membranaceis serratis trinerviis basi in petiolum perbrevem attenuatis, paniculis terminalibus et e dichotomiis ramorum polycephalis subaphyllis, involucri squamis ovatis acutis striatis pubescenti-hirsutis, acheniis obovatis, pappo calyculato fimbriato dentibus subæqualibus.

Hab. Realejo.—Readily known from the preceding ones by the different leaves, the long flexuose branches, and the closely imbricated rather small scales of the involucre.

1. Tithonia *angustifolia* (n. sp.); caule fruticoso incano, foliis plerisque oppositis lineari-oblongis obtusis coriaceis asperis obscure serratis trinerviis brevissime petiolatis subtus reticulatis albo-canescentibus, pedunculo terminali brevissimo monocephalo cylindraceo, involucri squamis pluriserialibus lato-oblongis striatis obtusis incanis margine albo-ciliatis, acheniis interioribus biaristatis.—T. pachycephala. *Hook. et Arn. supra, p.* 299. (*non De Cand.*)

Hab. Between San Blas and Tepic.—Better specimens in Dr Sinclair's collection, than we before possessed, have satisfied us that we were wrong in referring this to De Candolle's *Tithonia pachycephala*. It is quite a different and a frutescent species.

2. T. *tagetiflora*. *Desf. in Ann. Mus.* 1. *p.* 46. *t.* 4. *De Cand. Prodr.* 5. *p.* 584.

Hab. Acapulco and Realejo.

1. Bidens *bipinnata*. *L.—De Cand. Prodr.* 5. *p.* 603.

Hab. Between San Blas and Tepic.

1. Lipochæta *umbellata*. *De Cand. Prodr.* 5. *p.* 610.

Hab. Between San Blas and Tepic.

2. L. *macrocephala* (n. sp.); foliis rigidis subsessilibus ellipticis acutissimis serratis asperis trinerviis supra pilis brevibus basi bulbosis subtus elevatim reticulatis, pedunculis axillaribus terminalibusque solitariis monocephalis, involucri squamis magnis laxis ext. ovato-subrotundis interioribus ellipticis apice scariosis infra apicem constrictis, acheniis centralibus aristis 2 elongatis.

Hab. Between San Blas and Tepic.—A solitary specimen of this is in the collection. Leaves 3-4 inches long, harsh and rigid, with very short inconspicuous hairs. Capitula 5 or 6 times as large as in *L. umbellata*. Our *Verbesina? ceanothifolia*, supra, p. 299, is undoubtedly a congener with this.

1. Tagetes *multiseta*; caule erecto alterne ramoso, foliis alternis bipinnatisectis lobis lineari-subulatis fere omnibus in setam elongatam productis, pedunculis solitariis longis nudis monocephalis, invol. oblongo 5-dentato, flosculis 15-20, ligulis 5 parvis retusis obcordatisve. *De Cand. Prodr.* 5. *p.* 645.

Hab. Between San Blas and Tepic.

1. Porophyllum *viridiflorum*. *De Cand. Prodr.* 5. *p.* 648. Kleinia viridiflora. *H.B.K.*

Hab. Between San Blas and Tepic,

1. Cacalia *sessilifolia* (n. sp. Sect. Eucacalia); glabra, caule herbaceo subsimplici? foliis profunde cordatis angulato-dentatis marginatis reticulatis omnino sessilibus, corymbo laxo oligocephalo, pedicellis nudiusculis, capitulis multifloris, involucri campanulati squamis 10-12 ext. herbaceis int. marginibus scariosis.

Hab. Between San Blas and Tepic.—A fine handsome species, allied to *C. cordifolia*, but quite distinct in its entirely sessile leaves.

2. C. *cirsiifolia* (n. sp. Sect. Eucacalia); erecta, glabra, caule herbaceo superne subaphyllo, foliis inferioribus lanceolatis pinnatifidis laciniis patentibus lineari-oblongis acutis 1-dentatis in petiolum longum basi insigniter dilatatum attenuatis superioribus fere ad

petiolum dilatatum reductis, corymbis amplis paniculatis, pedicellis bracteatis bracteis subulatis, capitulis multifloris, involucri campanulati squamis sub 10 oblongis acutis striatis interioribus latioribus late scariosis.

Hab. Between San Blas and Tepic.—A tall handsome plant with copious rather large flowers, but smaller than in the preceding species.

1. Cirsium *cernuum*. *Lag.—De Cand. Prodr.* 6. *p.* 639.

Hab. Between San Blas and Tepic.—The heads of flowers in our dried specimens are erect: but in other respects the species quite agrees with the description of the plant to which we have referred it.

1. Trixis frutescens. *Browne, Jam. p.* 33. *f.* 1. *De Cand. Prodr. t.* 7. *p.* 68.

Hab. Between San Blas and Tepic.—Our *Trixis latifolia* (supra, p. 300) is the *Acourtia formosa*, Don, and De Cand. Prod. 7. p. 66. and is also in the present collection. The genus *Acourtia*, however, scarcely seems to differ from *Trixis.*

Ord. XXVII. LOBELIACEÆ. *Juss.*

1. Lobelia *laxiflora* (H.B.K.); caule erecto ramoso, foliis subsessilibus ovato-acuminatis serrato-dentatis, pedicellis axillaribus nudis vel medio bibracteolatis folio subæqualibus, tubo calycis hemisphærico, lobis lanceolatis acutis tubum longitudine æquantibus, corolla intus pubescente 6° 8°ve brevioribus, antheris apice hirsutis, capsula semisupera. *De Cand. Prodr.* 7. *p.* 383. L. persicæfolia. *Cav. Ic.* 6. *t.* 518, *non Lam.* L. Cavanillesii. *Roem. et Sch.* 5. *p.* 43. *Hook. Bot. Mag. t.* 3600 (*var.* fol. angustis). L. rigidula. *H.B.K.* (*fide De Cand.*) Siphocampylus bicolor. *Don. Brit. Fl. Gard. t.* 389.

Hab. Realejo.—A very variable species, with the habit of *Tupa* or *Siphocampylus*, to which latter genus Don refers it without hesitation. In our present specimens the leaves are crowded, broadly lanceolate, acuminate, wrinkled, more or less downy, especially the upper ones. The flowers do not extend much beyond the length of the leaves. Our *L. lanceolata* and *angulato-dentata* (supra, p. 301.) and *L. ovalifolia* (supra, p. 299), belong to the same group with the present, and may possibly be forms of the same species: but if so it is the most variable with which we are acquainted.

Ord. XXVIII. ERICEÆ. *Juss.*

1. Gaultheria *odorata. H.B.K.*—β. Mexicana. *De Cand. Prodr.* 7. *p.* 595.

Hab. β. Realejo.—The pedicels are scarcely so long as De Candolle describes them to be in this variety; but the plant is quite the same as Andrieux's Pl. Mex. n. 264, to which De Candolle refers.

Ord. XXIX. APOCINEÆ. *Br.*

1. Vinca *rosea.* L.

Hab. Between San Blas and Tepic. No doubt an introduced plant.

1. Cerbera *Thevetia. Jacq. Am.* 48. *t.* 34. *Bot. Mag. t.* 2309.

HAB. Acapulco.

ORD. XXX. ASCLEPIADEÆ. *Br.*

1. Asclepias *Curassavica.* L.—*var.* foliis angustioribus.

HAB. Realejo.

2. A. *incarnata. L.—Bot. Reg. t.* 250.

HAB. Realejo.—The structure of the flowers in the solitary specimen agrees with *A. incarnata,* especially in the narrow exserted horns of the nectary, but the staminal crown is, in the dried specimen, deep yellow, and the leaves are larger (5 inches long by 2 broad) and upon longer petioles than in authentic specimens of *A. incarnata.*

3. A. *longicornu* (Benth. Pl. Hartweg. p. 24); suffruticosa, ramis adscendentibus pubescentibus, foliis petiolatis ovatis v. ovali-oblongis obtusis undulatis basi cuneatis crassiusculis utrinque pubescentibus, umbellis breviter pedunculatis interpetiolaribus.—Flores majusculi. Corolla reflexa, laciniis acutiusculis. Coronæ foliola cornuformia, angusta, gynostemio plus duplo longiora, supra medium divergentia, apice latiora, aperta, processu acuto foliolum parum superante. *Benth.*

HAB. Realejo.—A very fine and distinct species. The root is woody and tuberous. Drummond's *Asclepias* from Texas (2*d Coll. n.* 219), is, if not the same, a nearly allied species.

1. Sarcostemma *bilobum* (n. sp.); glabrum, caule herbaceo scandente, foliis longe petiolatis cordato-ovatis tenuissime acuminatis basi profunde bilobis sinu angusto lobis rotundatis, umbellæ multifloræ pedunculo foliis longiore, pedicellis elongatis.

HAB. Acapulco.—An undoubted *Sarcostemma,* with leaves 1½ to 2 inches long, having so deep a fissure or narrow sinus at the base as to extend one-third the length of the leaf. Segments of the corolla at length reflexed. Outer corona, a fleshy, elevated, entire ring; inner of 5 fleshy, ovato-triangular, very conspicuous leaflets.

ORD. XXXI. GENTIANEÆ. *Juss.*

1. Erythræa *macrantha* (n. sp.); caule diffuso acute tetragono ramoso angulis subalatis, ramis alternis, foliis linearibus acutis trinerviis floribus terminalibus solitariis, calyce pentagono ultra ¾ fisso, laciniis subulatis tubum corollæ æquantibus, corollæ tenui-membranaceæ subpellucidæ laciniis ovato-lanceolatis patentibus, capitulo tubum duplo triplove superante, antheris spiraliter tortis, stigmate ?—β. *major;* foliis anguste linearibus uninerviis.—Erythræa Mexicana (?) *Hook. et Arn. supra, p.* 302. (*the var. from Tepic.*)

Hab. β. Between San Blas and Tepic.—Well preserved specimens of this plant have satisfied us that we have confounded two very distinct species of *Erythræa* at our p. 302 above quoted. The Talisco plant is, we believe, *E. Texensis*, Grisebach, Gent. p. 139. (*E. Mexicana*—Griseb. mst. in Herb. Hook.) in an old state. The other is a broad leaved state of our *E. macrantha*. Dr Sinclair's perfect specimens have the flowers so large that we did not hesitate, at first, in considering them as belonging to a large flowered species of *Chironia*, particularly near some of the slender varieties of *C. linoides:* and the generic differences between the two, it must be acknowledged, are very slight. In our plant there is no perceptible connectivum between the cells of the anthers, which is the main character of Grisebach's *Erythræaceæ:*—and the tube of the corolla is as short in our present species as in any *Chironia*.

1. Halenia *multiflora* (Benth. Pl. Hartweg. p. 24.); caule erecto folioso angulis subalatis, foliis trinerviis ellipticis lanceolatisve obtusissimis obovatis in petiolum angustatis, cymis umbellæformibus, sepalis lanceolatis acutis, calcaribus crassis corolla quadrifida quadruplo brevioribus. *Benth.*

Hab. Between San Blas and Tepic.—This has the shortest spurs to the corolla of any species we are acquainted with.

Ord. XXXII. BIGNONIACEÆ. *Juss.*

1. Bignonia? *obovata* (n. sp.); fruticosa v. arborea, foliis oppositis simplicibus obovatis brevissime petiolatis membranaceis integerrimis basi acutis apice brevi-acuminatis parallelim nervosis supra glabris subtus pallidioribus reticulatis ad nervos pubescenti-hirsutis, racemo terminali paucifloro, pedicellis brevibus, calyce oblongo-tubuloso e foliolis quinque exterioribus sensim minoribus 2 int. unitis apice bilobo, corollæ tubo calyce ter longiore sursum dilatato limbo 5-lobo lobis amplis rotundatis patentibus.

Hab. Realejo.—I can find no description of this fine species, which may perhaps be referred to *Spathodea*. The leaves are 4-6 inches long, membranaceous, penninerved, the nerves obliquely transverse, numerous, parallel. The flowers 2-3 inches long: corolla apparently yellow. There is no specimen of fruit: but Dr Sinclair has put up with the specimens the dissepiment of a capsule which is 5½ inches long, oblongo-elliptical, chartaceous, much thickened at the margins on both sides: seeds numerous, obcordate, with an exceedingly broad, delicate, membranaceous wing, marked with radiating nerves.

1. Amphilophium *Mutisii*. *H.B.K. Nov. Gen. Arn.* 3. *t.* 219. *Spreng. Syst. Veget.* 2. *p.* 836.

Hab. Realejo.—The specimens entirely agree with Humboldt and Kunth's figure.

Ord. XXXIII. HYDROLEACEÆ. *Br.*

1. Wigandia *scorpioides* (Choisy in Mem. Soc. Phys. Gen. 6. p. 117); elata, herbacea, pubescens, foliis ovatis (inferioribus cordatis?) ellipticisve acutis dentatis subtus albo-

tomentosis, spicis paniculatis longissimis revolutis, pedunculis calycibusque dense tomentoso-hirsutis.—*Don, Gen. Syst. Bot. and Gard. v.* 4. *p.* 251.

Wigandia scorpioides seems to have been only described by Choisy from an unpublished drawing of Sesse and Moçino, but there can be no question of this being the same plant. Our specimens are 2 feet long, and yet do not exhibit the lower leaves. The stem is thicker than a goose quill, obtusely angular, downy, not in the least hairy. Leaves on our specimens alternate, 3-5 inches long, nearly elliptical, on a rather short petiole, acute, irregularly toothed, of a thickish texture, above minutely reticulated with veins, wrinkled and slightly downy, beneath thickly clothed with white tomentum. The upper branches form a large panicle of secund large spikes, 4-6 inches long, revolute at their apices. Calyx large, cut to the middle in 5 rather long, subulate (in the dry state curved) segments, covered with dense hairy tomentum. Corolla half an inch or more across; in its structure, and that of the stamens and pistil, exhibiting the same appearances as *W. urens.* Branches of the styles, after the falling away of the corolla, much protruded beyond the segments of the calyx.

We may here observe that Choisy has described the Mexican *Wigandia urens* of Kunth and us (supra, p. 303), as a distinct species, with the following name and character:

W. *Kunthii;* hispidissima, foliis ovato-cordatis duplicato-crenatis utrinque pilosis obtusis, paniculis terminalibus ramosis, sepalis lineari-lanceolatis acutiusculis canescenti-tomentosis, capsulis pilis longis vestitis. *Choisy, in Mem. Phys. Gen.* 6. *p.* 116.

The original *Wigandia urens* is a native of Peru, whence we possess fine specimens from Mr Cuming, Mr Mathews, and Mr M'Lean.

Ord. XXXIV. CONVOLVULACEÆ. *Juss.*

1. Quamoclit *vulgaris. Choisy.*—Ipomæa Quamoclit. *L.—Bot. Mag. p.* 244.

Hab. Between San Blas and Tepic.

1. Convolvulus (Pharbitis, *Chois.*) *Nil.*—Convolvulus Nil. *L.*—Ipomæa cærulea. *Ker, Bot. Reg. t.* 276.

Hab. Realejo.—This plant varies much in the foliage, the leaves being sometimes entire, sometimes 5-, and in our specimens, more generally 3-lobed.

There are several other *Convolvulaceæ* in this collection, but they are too difficult to be determined with our present materials, nor have we space for the descriptions.

Ord. XXXV. POLEMONIACEÆ. *Juss.*

1. Hoitzia *cærulea. Cav. Ic.* 4. *p.* 44. *t.* 366. Cantua cærulea. *Lam.*

Hab. Mexico. *Bates et Grisebach, in Herb. nostr.*—This species is well distinguished by the narrow, harsh, rigid, nearly solitary flowers at the apices of the short branches, the obovate, diaphanous, white bracteas, with deep purple, reticulated veins. I am not aware that this is found on the Pacific side of S. America. Our specimens from Mr Bates and Dr Grisebach are we believe from near the city of Mexico.

2. H. *glandulosa*. *Cav.—Hook. et Arn. supra, p.* 303.

Hab. Between San Blas and Tepic.—Here the bracteas are linear-lanceolate, mucronate, close pressed, 1-nerved, opaque, glanduloso-pubescent on the back; and the usually solitary (rarely didymous) flowers are arranged alternately, but pretty close on the short branches so as to form a spike. It is an erect growing species.

3. H. *elata* (n. sp.); caule ramisque glanduloso-pilosis, foliis lato-lanceolatis acutis æqualiter mucronato-serratis glabris utrinque scabris, floribus glomeratis in ramulis brevibus, bracteis lineari-lanceolatis mucronatis subintegerrimis opacis uninerviis glanduloso-pilosis.

Hab. Near the city of Mexico. *Bates, in Herb. nostr.*—Allied to the preceding, but apparently a much taller plant (our specimen, only the portion of a plant, is 1½ foot long), and the flowers are constantly glomerated at the apices of short branches which are about ½ an inch long.

4. H. *Cervantesii*. *H.B.K. Nov. Gen. Am.* 3. *p.* 164.

Hab. Realejo.—At p. 303 of this work we had expressed a doubt if *H. Cervantesii* was really distinct from *H. glandulosa*. If the present plant be the real *H. Cervantesii*, it is undoubtedly distinct. It is a procumbent, small, straggling, somewhat dichotomous species; the younger branches only clothed with short, glandular down; flowers glomerated, terminal, but more generally sessile in the axil of the cauline leaves. Bracteas opaque, slightly downy, scarcely glandular, lanceolate, but rather broader upward, mucronate and mucronato-serrate, 1-nerved, obscurely reticulated. The leaves are ovate, broader than Humboldt describes them to be.

5. H. *lupulina* (n. sp.); elata glaberrima, foliis (nunc oppositis) ovatis breve petiolatis duplicato-cartilagineo-serratis aristatis scabriusculis, ramulis gracilibus simplicibus v. divisis, bracteatis bracteis profunde cordatis nitidis viridibus reticulatis longe ciliato-dentatis inferioribus remotis supremis dense imbricatis involucriformibus floriferis.

Hab. Realejo and Acapulco.—A most distinct and well marked species 1½ to 2 feet high, glabrous in every part. The bracteas, ¾ of an inch long and as much broad, are extremely beautiful, and extend for the whole length of the smaller branches, the upper imbricated ones only being floriferous.

6. H. *amplectens* (n. sp.); glaberrima, ramis elongatis superne scabriusculis, foliis oppositis sessilibus ovato-acuminatis membranaceis reticulatis duplicato-mucronato-serratis scabriusculis superne, in bracteas alternas rigidas nitidas ciliato-dentatas virides reticulatas profundissime cordatas amplexantes supremas imbricatas floriferas transeuntibus, calycibus longe aristatis.

Hab. Between San Blas and Tepic.—Of this very remarkable plant our specimens are from 6 inches to a foot in length. Leaves 2 inches long, in remote, constantly opposite pairs; within from 4 to 6 inches of the apex of the branch they suddenly become bright green, cordiform, alternate bracteæ, an inch long, the upper crowded and broader, all of them with so deep and narrow a sinus at the base, that the two lobes embrace the stem which thus appears perfoliate.

ORD. XXXVI. BORAGINEÆ. *Juss.*

1. Cordia (Gerascanthus) *tomentosa. Cham. in Linnæa, v.* 4. *p.* 472.

HAB. Between San Blas and Tepic.—This exactly agrees with authentic specimens of *C. tomentosa* from tropical Brazil in our Herbarium. The species is at once distinguished from *G. Gerascanthus,* nobis (supra, p. 304,) which we believe to be the true plant of Jacquin, by the larger, more acute leaves, less tapering at the base, clothed beneath with stellated pubescence, by the smaller flowers and shorter calyx, in proportion to its size.

2. C. (Varronia) *multispicata. Cham. et Schlecht. in Linnæa,* 4. *p.* 490.

HAB. Between San Blas and Tepic.—This differs in no respect from our authentic specimen from the Berlin Herbarium, except in the leaves being of a thinner and more membranaceous character.

ORD. XXXVII. ACANTHACEÆ. *Juss.*

1. Aphelandra *cristata. Br. in Bot. Mag. p.* 1578.—Justicia cristata. *Jacq.*

HAB. Acapulco.

ORD. XXXVIII. VERBENACEÆ. *Juss.*

1. Lippia *asperifolia. Rich.—Hook. Bot. Miscell. v.* 2. *p.* 236.

HAB. Realejo.

2. L. *geminata. H.B.K. Nov. Gen. Am.* 2. *p.* 266.

HAB. Realejo.—This seems to agree with the *L. geminata,* H.B.K. except that the leaves are more generally obtuse than acute.—It is also nearly allied to *L. microphylla,* Cham. et Schlecht.: but there the leaves are smaller, more harsh and wrinkled, and the scales of the capitula are acuminated.

ORD. XXXIX. LABIATÆ. *Juss.*

1. Hyptis (Polydesmia) *rhytidea* (Benth. Pl. Hartweg. p. 21.); fruticosa, ramis glanduloso-pubescentibus, foliis breviter petiolatis oblongo-lanceolatis serratis rigidis supra scaberrimis subtus puberulis, floralibus parvis subovatis acutissimis, capitulis paucifloris densis subsessilibus, in racemum terminalem interruptum subramosum dispositis, bracteis paucis oblongo-linearibus subulatisve calyce plerumque brevioribus, calycibus pubescentibus subviscosis, fructiferis acutis obliquis rigidis, dentibus lanceolato-subulatis subspinescentibus, corolla calyce parum longiore leviter pubescente. *Benth.*

HAB. Between San Blas and Tepic.—This is the same plant with Hartweg's n. 170 from Bolanos, and of which Mr Bentham says, "Species distinctissima, habitu quodammodo *H. rubicundam* refert, inter *Polydesmia* et *Minthidio* media."

ORD. XL. LENTIBULARIEÆ. *Rich.*

1. Pinguicula *lilacina* (Cham. et Schlecht. in Linnæa, v. 5. p. 94.); foliis rotundato-ovatis obtusis siccitate hyalino-membranaceis utrinque nigro-punctulatis supra pilosiusculis, pedunculis puberulis, calcare cylindrico obtuso, corollæ totius quartam partem æquante.

HAB. Between San Blas and Tepic.—Flowers lilac-colour. Leaves very large, broad, and peculiarly thin and semi-transparent.

ORD. XLI. NYCTAGINEÆ. *Juss.*

1. Mirabilis *Jalapa. L.*

HAB. Realejo.

ORD. XLII. EUPHORBIACEÆ. *Juss.*

1. Jatropha *urens. L.*

HAB. Realejo.

1. Dalechampia *hibiscoides;* foliis tripartitis argute denticulatis utrinque hirto-pubescentibus, stipulis basilaribus bipartitis, bracteis involucrantibus trifidis hirto-puberulis glanduloso-ciliatis. *H.B.K. Gen. Am.* 2. *p.* 102.

HAB. Realejo.

ORD. XLIII. PIPERACEÆ. *Kth.*

1. Piper *ellipticum* (n. sp.); caule fruticoso tereti tuberculato maculato, foliis glaberrimis submembranaceis oblongo-ellipticis integerrimis nervosis obtusissimis basi valde inæquali utrinque rotundatis subtus reticulatis, petiolo brevi canaliculato tuberculato basi amplexante, spadice longitudine foliorum.

HAB. Realejo.—Leaves 4-5 inches long. Stem almost black, with small light brown spots.

ORD. XLIV. CONIFERÆ. *Juss.*

1. Pinus *radiata. Don.*—*Hook. et Arn. supra, p.* 392.

HAB. San Juan mountain, near Tepic.—The cone of this was noticed by us at p. 392: and if we are correct in referring the species to Mr Don's *P. radiata*, the leaves are constantly quinate, a foot long, slender, slightly scabrous at the margin: the sheaths 2 inches long, brown. The leaves were unknown to Mr Don. *P. patula* of Cham. and Schlecht. has the leaves only ternate or sometimes quaternate. Good specimens, foliage and fruit of Mexican Pines are much to be desired.

ORD. XLV. CUPULIFERÆ. *Rich.*

1. Quercus *aristata* (n. sp.); foliis coriaceis brevissime petiolatis oblongis obtusis integerrimis apice aristato-cuspidatis basi cordatis glabris subtus juxta nervum pubescentibus, junioribus ramulisque pubescenti-tomentosis.

HAB. Between San Blas and Tepic.—We regret there are no glands of this oak, of which we can find no description, nor any fertile flowers. The leaves are 4-5 inches long, terminated by a very evident but brittle awn, 2 or 3 lines in length, generally broken on the older leaves.

ORD. XLVI. PISTIACEÆ. *Rich.*

1. P. *Stratiotes. L.*

HAB. Between San Blas and Tepic.

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* Our plant is more correctly *B. viridis* of authors.

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